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THE FINANCES OF FOUNDING A FAMILY

I

INTRODUCTION

THIS paper summarises the results of an enquiry into the economic circumstances and spending behaviour of a small sample of young Aberdeen families having a first or second child in the early 1950s. The enquiry was undertaken by the Department of Political Economy in the University of Aberdeen with the aid of a generous grant from the Nuffield Foundation.[1]

Aberdeen was chosen for this investigation, not for its proverbial reputation in money matters, but because its compact layout and somewhat isolated position simplified field-work problems. Furthermore, many aspects in the lives of young and growing families in the city were being studied by the University Midwifery Department, in association with the Social Medicine Research Unit of the Medical

[1]A study of this kind involves the participation of a large number of people. These cannot be individually listed here, but to professional colleagues in the University of Aberdeen and elsewhere, to many workers in the social services, both statutory and voluntary, and at national, regional and local levels, to the managements of a number of Aberdeen firms, to several local trade union officials, and to countless other citizens of Aberdeen, I wish to express my most sincere thanks. Certain individuals or organisations had a special rôle to play: the inquiry could not have been undertaken without the encouragement of Henry Hamilton, Professor of Political Economy, and Dugald Baird, Professor of Midwifery, in the University of Aberdeen, and the guidance of Richard M. Titmuss, Professor of Social Administration in the University of London. It would have been a total failure but for the patient and willing co-operation of the families approached and the friendly persistence of the interviewing staff, Miss J. R. Friedenthal (known locally for convenience as Miss Rae) and Miss C. P. Kerr. The analysis of data and the general clerical work were in the competent hands of Mrs. N. Dinnes. To all these I should like to put on record my especial debt of gratitude.

Research Council,[2] and we found it possible to adapt the sampling machinery set up by our medical colleagues for this parallel economic inquiry.

The main object of our study has been to investigate the levels of income and the spending habits of young Aberdeen couples starting families in the relatively prosperous economic environment of recent years. Many social measures of the war period and the subsequent introduction of family allowances have relieved parents of some of their pre-war economic burdens,[3] and yet the growth of statutory aid for family support has not, except in the case of food expenditure,[4] been accompanied by the development of national studies of family finances in the changing circumstances of the post-war world. This lack of contemporary information is regrettable, not merely because the administrator or child welfare worker is kept in ignorance of the precise benefits resulting from the outlay of public money (to the extent of £66 m. on family allowances alone in 1951), but also because the economic fortunes of families with children seem to be especially sensitive to changes in financial policy.[5] Since Britain is concerned about her population prospects and is committed to public provision for family support, it seems strange that so little attention should have been given to the question of preparing for and maintaining dependent children in the contemporary situation. However, the results of the current Ministry of Labour cost of living study may throw some light on this subject; in the meantime, small-scale *ad hoc* local inquiries, such as the present one, can begin to examine some of the financial problems of present-day parents.

II

The Social and Economic Background

In the early 1950s there were in Aberdeen a number of distinctive circumstances which influenced family spending behaviour. These will only be outlined here, since they are described in detail in Mr. Hugh Mackenzie's volume in the *Third Statistical Account* series.[6]

[2] Medical Research Council, *Report for the Year 1951-52* (1953).

[3] The pre-war situation and subsequent developments are discussed by J. Hajnal and Professor A. M. Henderson in a *Memorandum on the Economic Position of the Family*, Papers of the Royal Commission on Population, Vol. V (1950).

[4] Ministry of Food, *Domestic Food Consumption and Expenditure, 1950* and *1951* (1952 and 1953).

[5] References to this subject will be found in *Bulletin of the Oxford University Institute of Statistics*, cf. D. Seers (Vol. 12, No. 10, 1950) and C. R. Ross (Vol. 14, No. 3, 1952).

[6] Hugh Mackenzie, *Third Statistical Account of Scotland: Aberdeen* (1953).

As a relatively isolated city of 183,000 people, Aberdeen has recruited its incoming population chiefly from the surrounding agricultural area of north-east Scotland, so that most young couples in the city have relations living nearby who can assist in times of need. Military service and the migration of labour during and since the war took many young folk away, and even in the 1950s some husbands (in 10 per cent. of the co-operating households) are living away from home on account of their work, while several others are trawl fishermen and at sea for trips of two or three weeks at a time. In some households, notably among the fisherfolk, the men's habitual absence undoubtedly gives their wives a dominant rôle in the management of domestic finances.

Although the name of Aberdeen brings to mind the fish trade, the granite industry and paper-making, there is in fact a great diversity of industrial and commercial activity, associated in part with the city's rôle as a regional capital. The breadwinners in our inquiry were scattered through all types of occupations and industries. The only distinctive vocation, not found in landward areas of Britain, is that of the sea-going fishermen, who have a peculiar method of remuneration. In accordance with tradition, the wages of most trawlermen vary with the value of the catch, and their pay at the end of a trip may either equal that of a highly skilled bonus worker on shore or alternatively be even less than that of an unskilled labourer making a bare minimum wage. Many trawl owners, however, pay a weekly subsistence allowance (usually of £4 in 1951-52) to fishermen's wives when their husbands are at sea, in order to soften the impact of these fluctuations on domestic finances.

The prevalence of weekly fluctuations in the earnings of individuals, experienced not only by the fishermen but also by all British workers on shift, bonus or overtime schemes,[7] makes it difficult to compare earning levels in different parts of the country. There is considerable evidence to suggest, however, that, in at least several industries, the pay-packet in Aberdeen in the early 1950s is relatively small: a local study of wages in some large firms showed that average Aberdeen earnings in engineering, paper-making and transport in October 1951 were lower than the national averages published by the Ministry of Labour for the same period (*Ministry of Labour Gazette*, March 1952); and figures kindly provided by the Engineering and Allied Employers' National Federation indicated that the average skilled fitter in the Aberdeen area was among the lowest paid in the country

[7] See the opening chapter of Dr. F. Zweig's book, *Labour, Life and Poverty* (1948).

and was earning in June 1951 no more than an engineer's labourer in the Coventry area (where there were exceptional opportunities for bonus work). The lower levels of pay in Aberdeen were probably associated to some extent with the rather uncertain employment position in the region.[8]

TABLE I

EXTENT OF SHARING AND TYPE OF PROPERTY OCCUPIED IN 1951-52 BY INQUIRY FAMILIES

Type of accommodation	Percentage of all families expecting a	
	First child	Second child
	%	%
Shared dwellings		
Corporation property . . .	35	24
Private tenement flats . . .	23	15
Other types of property . .	10	8
All shared dwellings . . .	68	47
Independent dwellings		
Corporation property . . .	1	6
Private tenement flats . . .	26	38
Other types of property . .	5	9
All independent dwellings . .	32	53
All types —%	100	100
—*Number*[1] . . .	*153*	*143*

[1] Excluding two families who spent part of their time in shared dwellings and part in independent circumstances.

Sources: Aberdeen Budget Inquiry, antenatal questionnaires from main sample.

Relatively low earning levels in the city were not on the whole offset by lower costs of living, since the prices of controlled and standardised goods and basic foodstuffs were the same in all areas. Furthermore, Aberdeen housewives, like those elsewhere, had to plan their spending in 1951-52 within the context of generally rising prices.

Only in respect of housing were costs frequently less than those in areas south of the Border, a sign not merely of cheapness but—perhaps more important to the families concerned—also of poorer

[8] Scottish Council (Development and Industry), *Unemployment in Aberdeen and District* (1952).

quality in accommodation. The 1951 Census figures showed Aberdeen to have a high proportion of shared or ill-equipped dwellings as compared even with other Scottish cities,[9] and one or both of these deficiencies was experienced by many of our inquiry families. Table I gives the type of accommodation which they occupied at the time of the first interview; all the Corporation property was modern, but most of the private tenement flats had no bathrooms or separate lavatories.

Most couples started married life in a shared dwelling, and by the sixth month of the wife's first pregnancy two-thirds of them were still sharing, often with relatives, in the larger Corporation flats or houses. Here the couple usually occupied a single room where they lived as a separate domestic unit, cooking for themselves on an independent gas ring. Even when a second baby was on the way 47 per cent. of our couples were still in shared premises, but others, having found their subtenancy intolerable and the Housing Department's waiting list long, had moved to a two-roomed flat in an old privately owned tenement, thus losing access to modern (though shared) conveniences in their endeavour to obtain total domestic independence.

Unsatisfactory living conditions affected spending behaviour in innumerable ways. For instance, subtenants were sometimes charged excessively for accommodation or fuel. Living in cramped quarters often meant a shortage of cupboard, larder and coal-storage space, which made bulk-buying impossible. Moreover, families intending to have several children had no room to store outgrown baby clothes or the pram.

A few couples, living as Corporation tenants in their own right, or buying their homes, did not have these problems; instead, they were faced with others, such as high rents or bond (mortgage) payments and the heavy expenses of furnishing a new house. Thus, added to many couples' economic worries over jobs, low earnings and rising prices, were further anxieties about living space, domestic amenities or costs.

III

The Sample

The 362 growing families studied in the Aberdeen inquiry were selected from the list of married women booking for a hospital confinement. It was not possible to sample from lists of women confined elsewhere (either at home or in a nursing home), but since in Aberdeen

[9] General Register Office. *Census 1951: One Per Cent. Sample Tables, Part I* (1952).

89 per cent. of all first, and 81 per cent. of all second births in 1951 took place in Regional Hospital Board maternity wards, the hospital population was not a highly select group.

TABLE II

CLASS AND AGE DISTRIBUTION OF BUDGET INQUIRY SAMPLE COMPARED WITH ALL ABERDEEN FAMILIES AT FIRST AND SECOND BIRTHS IN 1951

Social class	Proportion of all families at			
	First births		Second births	
	In main sample	In all Aberdeen	In main sample	In all Aberdeen
	%	%	%	%
Salaried or commercial workers (I+II)[1]	8	13	14	15
Skilled wage-earners (III)[1]	65	63	62	60
Unskilled wage-earners (IV+V)[1]	27	24	24	25
All classes	100	100	100	100
Wife's age at booking				
Up to 19 years	10	11	1	2
20 to 24 years	54	49	27	31
25 to 29 years	25	27	45	40
30 years and over	11	13	24	27
All ages	100	100	100	100
Total number	*177*[2]	*919*[3]	*156*[2]	*904*[4]

[1] Registrar-General's Social Classes.
[2] These totals are less than one-third of all first or second births in Aberdeen because non-hospital cases, late bookings, families being studied in the Midwifery's Department's Research project and those whose first child had not survived were excluded, as described in the text, before the selection of the 1 in 3 sample.
[3] Excluding 3 families for whom class or age data were not available.
[4] Excluding 5 families for whom class or age data were not available.

Sources: Aberdeen Birth Records and main sample of Budget Inquiry.

All the women chosen for study were city residents. They had made the booking for their first or second confinements before the twenty-second week of their pregnancies, and expected the births at a date within the year from 1st April 1951 to 31st March 1952. Those having a second baby all had a first child living at home.

The main sample of 333 cases was selected month by month by taking every third name from the hospital booking-list after that list had been revised to include only the types of families just described. In addition, another 29 names were chosen in order to swell the small number of households belonging to the salaried and shopkeeping classes. The Registrar-General's social classification was used to aid in this additional selection, the extra numbers being picked from those in which the husbands' occupations placed their families in social classes I or II.[10] The extra households were needed to make possible a separate analysis of some aspects of the behaviour of this group, whose resources and aspirations often varied considerably from those of the others in the sample.

The inquiry families were broadly representative of most equivalent households in the city. Table II compares the class and age distribution of the main sample with those of all corresponding Aberdeen families.

Only one group was considerably under-represented: this was the group of salaried and commercial workers' wives expecting first babies, some of whom preferred and could afford to be confined in the private nursing home. Those of this group who figured in the hospital sample were therefore probably from the less well-to-do families, often wives of students or of young professional men receiving relatively low salaries. With this exception, the main sample families seemed to be a reasonably unbiased selection.

IV

Field Work

After a pilot study the two experienced interviewers began in January 1951 to approach the first lot of the selected families at a time when the wives were six months pregnant. The interviewer's initial task was to complete a questionnaire covering household composition, living arrangements, regular rent, fuel and light payments and family income. Often she had to make a second, evening, visit to question the husband, and at this point she asked the couple whether they would keep records of their incomes and spending during the following fortnight. If they consented, they were each given a notebook for daily entries of every item. Subsequent visits during the fortnight stimulated co-operation and enabled the interviewer to watch recording in progress before undertaking the final check at the end

[10] General Register Office, *Classification of Occupations, 1950* (1951).

of the two weeks. Six months later, when the new baby was three months old, this whole procedure was repeated to see what changes had occurred. In the intervening period the interviewers visited the wife at monthly intervals in order to compile a list of all items specially acquired on account of the birth. The collection of inquiry material on these lines continued until July 1952.

V

Response

The inquiry families were asked to provide extensive information and keep detailed records without reward, and some, naturally, felt unable or unwilling to complete the full course. Table III shows the extent of co-operation at various stages.

Table III

RESPONSE OF FAMILIES AT VARIOUS STAGES OF THE INQUIRY

Stage of co-operation	Families at first and second births	
	Number	Percentage of main sample
Families in sample	*333*	100
Families giving details		
at antenatal interview . . .	*298*	90
at postnatal interview . . .	*226*	68
on special birth costs . . .	*216*	65
Wives keeping		
antenatal budget records . .	*196*	59
postnatal budget records . .	*150*	45
Husbands keeping		
antenatal budget records . .	*156*	47
postnatal budget records . .	*103*	31

Source: Aberdeen Budget Inquiry, main sample.

The initial response was quite good, the antenatal questionnaire being completed for 90 per cent. of the sample. A postnatal questionnaire was returned for two-thirds of the total, who also gave full details of their special birth outlay. As in other studies, fewer families, and in particular fewer husbands, kept spending records. Failure to respond fully was due not merely to downright refusal but also to removal

(often away from the city), to the husband's absence from home, or to the death of the infant.

These losses did not result in an extensive bias, at least so far as the class and age composition of families co-operating at various stages was concerned. The older families in the higher social groups were slightly more successful in record-keeping than the others but, apart from this, the families giving information at different points in the inquiry remained reasonably representative of the class and age groups in the total sample. The fact that they were able to provide full details of their incomes and spending suggests, however, that they were the more careful, and probably the more efficient, financial managers.

VI

Family Income

Family income for the purposes of this inquiry was defined as average weekly earnings (less deductions for income tax and national insurance contributions) plus any additional regular receipts (*e.g.* benefits, disability pensions and property incomes), except payments from boarders and lodgers.

This definition conformed to the concept of income held by most of the couples visited and covered the resources of the biological family alone. When earnings varied from week to week an element of approximation was inevitably involved. Income data, asked for during the two interviews, were withheld by some of the families, especially when the husband was away from home, but accurate information was provided by 82 per cent. of those completing antenatal, and 79 per cent. completing postnatal questionnaires, in either instance a representative cross-section.

The chief, and in the great majority of households, the sole source of family income up to the second birth was the husband's pay. After the arrival of the second baby the couples became eligible for the statutory family allowance (of 5s. a week in the inquiry period), and without exception took advantage of it.

Incomes in all social groups were widely distributed but the mean tended to rise significantly as family responsibilities increased. This is shown in Table IV, where the unit of account is shillings and, for convenience in mechanical calculation, decimals of a shilling. Standard errors are given after the mean incomes. The number of families providing information is shown in brackets after the average income.

TABLE IV

AVERAGE FAMILY INCOME (1951-52) OF FAMILIES AT FIRST AND AT SECOND BIRTHS BY SOCIAL CLASSES

Social class	Average income (in shillings) at interview			
	Before first births	After first births	Before second births	After second births
Salaried and commercial workers (I+II)	149·7 ±6·7 (*23*)	144·9 ±10·6 (*14*)	168·8 ±7·1 (*27*)	184·1 ±8·0 (*23*)
Skilled wage-earners (III)	128·9 ±3·0 (*79*)	135·5 ±2·9 (*58*)	135·0 ±2·8 (*72*)	146·9 ±3·6 (*55*)
Unskilled wage-earners (IV+V)	118·9 ±4·6 (*37*)	123·9 ±3·8 (*25*)	121·7 ±4·9 (*30*)	129·5 ±5·7 (*20*)
All classes	127 ±2·4 (*126*)[1]	131·6 ±2·2 (*90*)[1]	136·7 ±2·7 (*118*)[1]	149·4 ±3·4 (*88*)[1]

[1] The number of families in each class (shown in brackets) adds up to more than the total in the bottom row because of the selection of additional Class I and II cases which are excluded from the calculation of the average for all classes.

Source: Aberdeen Budget Inquiry, antenatal and postnatal questionnaires.

The rise occurred usually about the time of the birth, except in the salaried and commercial group. Although probably the less well-to-do of those in their class (see p. 207), the breadwinners of this group participating in the inquiry showed many of the expected and distinctive characteristics: they were favoured by an exceptional increase in incomes between the infancy of the first child and the birth of the second, since, as professional men or independent shopkeepers, they (unlike the wage-earners) frequently obtained substantial increases in remuneration as they gained in occupational experience, a process which usually ran parallel with the growth of their families.

In the other groups average increases in earnings were not so great, and rarely so permanent, since the level of pay varied with the breadwinner's changing opportunities for working on shift, bonus or overtime schemes. Although many minimum wage rates were raised by national negotiation during the inquiry period, wage-earners did not all obtain corresponding advances; indeed, as many as one-fifth of all families co-operating up to the postnatal interview had lower incomes after the birth than before. This was the case at second, as well as at first births, in spite of the receipt of the family allowance for the second child.

The method of income-tax assessment had a minor rôle to play in raising the incomes of growing families. Under the scheme, an earner is taxed on only a section of his income, the amount of the remaining, tax-free, part being determined chiefly by the number of his dependants. In the financial year 1951-52, for example, the upper limit of these tax-free allowances was £5 5s. for a married couple alone, £6 15s. for a couple with one child, and £8 5s. for those with two children. About 80 per cent. of the inquiry couples expecting a first birth had gross incomes (*i.e.* before any deductions) above this limit, but a much lower proportion of those with children found themselves within the taxable ranges. For instance, after the first birth only 31 per cent. of the total were liable for taxation, and after the second no more than 16 per cent. Those with incomes still above the tax-free limit at this stage of family development belonged chiefly to the better-paid salaried and commercial group, where 52 per cent. were paying tax as against only 9 per cent. of the wage-earners. The impact of the dependants' allowances scheme among wage-earning families in Aberdeen (where wage levels were relatively low) was such as to relieve most of them of all income-tax liabilities, if not at first then at second births. It therefore enabled them to add to their net family incomes the few shillings which was all that the great majority had previously paid in tax each week.[11]

VII

Division of Income between Husband and Wife

Although the husband's and the wife's precise duties in the family economic unit vary from household to household, there is a general tendency for the man to act simply as the breadwinner while the housewife is the chief arbiter of spending, at least on basic domestic needs.[12] In the inquiry households the questionnaire data showed that four-fifths of the wives carried the full responsibility for regular outlay on food, accommodation (*i.e.* rent, rates, lodging or mortgage payments), fuel and light; this extensive control of domestic spending was given to the wife more frequently in wage-earning households (87 per cent.) than in the salaried and commercial (57 per cent.) where husbands more often settled accommodation, fuel and light bills.

[11] The effectiveness of the dependents' allowance scheme in the total system of British family-aid policies is discussed by A. M. Carrter in *Population Studies*, Vol. VI, No. 3 (1953).

[12] The literature on this subject is summarised by M. Young in *British Journal of Sociology*, Vol. III, No. 4 (1952).

Since women with young children were rarely in paid employment or drawing insurance benefit in their own right, the sole source of funds (until the family allowance became available) was that portion of earnings which the breadwinner allocated to housekeeping expenses. In the wage-earning household this was usually done either by handing the whole pay-packet, however much its contents varied from week to week, to the wife (who would return an agreed amount for the husband's personal spending), or by giving her a fixed sum each week. The latter arrangement became increasingly common as wage-earners' families grew in size, being adopted by 58 per cent. of these couples at first births and 71 per cent. at second. It was more frequently practised by the better-paid manual workers than by men earning only a minimum wage or drawing merely a social insurance benefit, often of only £3-£4 a week. In these low-income households the wives frequently had sole charge of the disposal of the very limited resources.

In order to obtain a uniform basis on which to calculate the level of housekeeping money available to our inquiry wives at the time of the interviews, our analysis was limited to those households of wage-earners where the wives had full responsibility for regular food, accommodation, fuel and light payments and were catering only for their husbands and children.[13] Their average housekeeping money at various stages of family development is given in Table V. The statutory family allowance is included in the last stage.

TABLE V

AVERAGE HOUSEKEEPING MONEY (1951-52) AT FIRST AND AT SECOND BIRTHS

Stage of development at interview	Average housekeeping money (in shillings)	Number of families included
Before first births . .	98·2 ± 2·0	*90*
After first births . .	102·3 ± 2·2	*67*
Before second births .	102·1 ± 1·9	*76*
After second births .	112·3 ± 2·3	*58*

Source: Aberdeen Budget Inquiry, antenatal and postnatal questionnaires of selected skilled and non-skilled wage-earners' families.

[13] These may also have been the households where the wives were the most careful financial managers.

The average level showed a tendency to rise after each birth but this increase was only significant after the wife began to draw the statutory allowance following the arrival of the second child. Experience in individual families varied considerably over the inquiry period; if the family allowance is disregarded, it seems that roughly one-half of the wives saw an increase in housekeeping resources, one-sixth suffered a decrease and for the remaining third the level was entirely unchanged. An examination of the frequency distribution suggests that there was a conventional level for the fixed sum handed over to the wife, amounting in 1951-52 to £5 a week. The majority of wives were expected to finance their domestic and personal outlay with this money and in most cases the amount did not alter as the number of dependent children increased.

Wives who received the whole pay (less their husband's pocket money) did not find their resources so restricted as their families grew. Although they had before the first birth the same average amount of housekeeping money as those getting a fixed sum (*i.e.* 98s. in either case), they were obtaining just before the second birth an average of 111s., as compared with only 97s., and were in fact gaining some advantages from the rather greater earnings of their husbands which the other wives did not share.

The rigidity of housekeeping-money levels in these early stages of family growth, which in practice gave a decreasing share of the slightly rising family income to the wife, was not necessarily a reflection of the wage-earning husband's parsimony to his dependants. The increasingly-used fixed-sum arrangement gave the wife a guaranteed amount on which she could budget each week, an important consideration when wages fluctuated widely and there was little certainty in earning levels. Moreover, the husband frequently took upon himself the task of saving for the household out of the variable surplus (see below, p. 218). Weeks of exceptionally high earnings might also be occasions for the purchase of costly items of clothing or furniture which could not normally be financed. Nevertheless, the relatively unchanging level of housekeeping resources in a wage-earner's household helped to perpetuate the husband's dominant position in financial matters,[14] and, as the family grew, placed an increasing premium on the wife's managing ability and her capacity to sacrifice her own needs to those of others. However efficient she

[14] This point has been fully discussed by Charles Madge in *Wartime Patterns of Saving and Spending* (1943). While the housewife may frequently take the final decisions on details of domestic spending, the scope of her activities is ultimately limited by the amount of housekeeping money which her husband chooses to give her.

might be, it seemed probable that standards of living would have to be lowered as successive children were born, each adding his claim to a share of the limited housekeeping resources.

VIII

Weekly Spending Patterns

It is now appropriate to turn to the spending side of family finances. Before analysis the budget records were subjected to a detailed procedure of checking, standardising and classification. All obviously inaccurate records were discarded, as were all records coming from abnormal households, *i.e.* where the wife was catering for additional boarders besides her immediate family or where the husband was living away from home on account of his work. These exclusions left us with a selection of accurate records from homogeneous family units which were reasonably representative of the whole sample, having income distributions at each stage of development almost identical, and those of all co-operating families of corresponding size, with only a slight bias towards greater maturity and higher social status. The fact that these couples succeeded in keeping records of their spending suggested, however, that their number included an exceptional proportion of careful financial managers. Those who had little ability in this respect may frequently have dropped out of the inquiry, and are not likely to be fully represented among the successful keepers of budget records.

The items entered in each budget record were classified under 27 heads into 7 main categories of outlay.[15] Certain categories were readjusted for the sake of fuller comparability. Thus in the case of accommodation, fuel and light, questionnaire data on average weekly outlay (based on recent bills) were substituted for the recorded outlay; the latter frequently failed to represent the cost of these items for the weeks under review because payments were often made at monthly or quarterly intervals and not every week. Discrepancies between the questionnaire and recorded data on this type of outlay were allowed for by an adjustment of the savings category. A further addition to savings was also made in the case of those mothers with two children

[15] In broad outline, these categories were as follows: food; accommodation (*i.e.* rent, rates, mortgage payments, lodging fees, etc.), gas, electricity and coal; household goods, including toilet and personal needs, household cleaning materials, furniture and baby equipment; clothing, wool and material; smoking and recreational items; miscellaneous items, including among other things travel and voluntary insurance; residual items, *i.e.* savings and small sums of unexplained expenditure (up to an average of 5s. a week).

who did not enter the family allowance on their two-weeks' record, preferring to leave it in the Post Office to accumulate to their credit.

The spending behaviour of the record-keeping couples was probably affected during the inquiry period by the price increases which were general during the eighteen months of field work from January 1951 to July 1952. In order to minimise this effect on the level of spending, the crude data recorded by each family were revalued, and expressed in terms of prices ruling at one point of time, *viz.* mid-January 1951. This adjustment was made by slightly re-grouping the budget data into broad categories to conform with those used in compiling the official interim index of retail prices.[16] Once this was done, the individual indices for each of these categories, which are published every month in the *Ministry of Labour Gazette,* could be applied to the inquiry data for the purpose of translating them back to January price-levels.

The general patterns of outlay at successive stages of family development, adjusted in the ways described, are given in Table VI. Average weekly outlay is shown for the main sample as a whole, and also for the wage-earning couples separately; numbers were too small for a finer social class analysis.

Since spending behaviour on some items varies greatly from one household to another, standard errors are frequently large; indeed, weekly expenditure on clothing and household goods (often costly items bought at irregular intervals) is too variable to make further discussion of these categories worthwhile here.

As family numbers grew, there was some significant increase in outlay on food, on accommodation, fuel and light, on 'other items' and on net savings. Food expenditure inevitably rose with more mouths to feed. Housing and fuel charges went up, not so much on account of the extra washing or the fact of the wife's staying indoors most of the day, but more particularly because a larger proportion of families at second births were occupying the more costly dwellings (see Table I). Charges for accommodation, fuel and light (combined here because couples in shared premises frequently paid for all these items in a single lump sum) were very much greater for those living in Corporation property who were paying on the average a combined weekly charge of 25s. 7d.) or occupying privately-owned up-to-date premises (43s. 7d.), than for those in poorly-equipped tenement flats (17s. 8d.) or still sharing (18s. 9d.). Expenditure on 'other items' (*i.e.* items such as insurance premiums, instalments to hire-purchase

[16] Ministry of Labour *Interim Index of Retail Prices. Methods of Construction and Calculation* (1950: revised edition 1952).

TABLE VI

AVERAGE WEEKLY EXPENDITURE ON THE DIFFERENT CATEGORIES BY FAMILIES AT FIRST AND SECOND BIRTHS

Families of all classes keeping records	No. of couples	Average weekly expenditure (in shillings) on: Food[1]	Accommodation, fuel and light[1]	Clothing[1]	Household and durable goods[1]	Miscellaneous goods and services[1]	Drink and tobacco[1]	'Other items'[1]	Net savings	Total
Before first births .	68.	41·8 ±1·1	18·0 ±1·0	8·3 ±2·0	3·3 ±0·3	22·5 ±1·1	12·1 ±1·1	11·5 ±1·3	+1·2 ±1·3	118·7 ±4·0
After first births .	50	44·2 ±1·2	19·8 ±0·8	11·1 ±3·2	4·1 ±2·2	21·3 ±1·6	12·0 ±1·2	11·0 ±1·2	+4·2 ±2·1	127·7 ±6·4
Before second births	62	48·5 ±1·6	24·0 ±2·4	9·5 ±2·2	9·2 ±7·8	25·2 ±3·8	15·0 ±1·6	16·3 ±3·1	+4·4 ±3·0	152·1 ±11·4
After second births .	44	49·8 ±1·4	28·0 ±3·2	8·9 ±1·6	2·5 ±1·1	26·4 ±5·4	12·1 ±1·4	17·4 ±5·0	+14·6 ±7·1	159·7 ±19·1
Families of skilled and non-skilled wage-earners keeping records										
Before first births .	61	40·7 ±1·1	16·9 ±0·7	8·9 ±2·2	3·3 ±1·0	22·0 ±1·0	12·5 ±1·1	12·2 ±1·4	+1·7 ±1·4	118·2 ±3·5
After first births .	46	43·3 ±1·2	19·8 ±0·9	11·7 ±3·5	3·7 ±2·3	21·1 ±1·8	12·4 ±1·3	11·3 ±1·3	+5·0 ±2·2	128·3 ±7·0
Before second births	51	46·8 ±1·5	18·8 ±0·8	9·9 ±2·5	1·4 ±0·6	19·7 ±1·6	13·2 ±1·4	18·7 ±3·7	+9·2 ±2·4	137·7 ±6·7
After second births .	34	48·1 ±1·3	21·8 ±1·1	7·4 ±1·6	2·3 ±1·2	18·9 ±1·2	10·9 ±1·4	15·1 ±1·9	+16·3 ±3·6	140·8 ±4·4

[1] Expenditure on these categories is expressed in terms of January 1951 prices.

Source: Budget records of main sample couples in normal households.

schemes or betting outlay, which did not figure in the interim index of retail prices because of their 'variable or non-measurable nature' also increased as families extended their insurance policy holdings or became more involved in instalment purchase.

Because of increasing incomes (see Table IV), there seems to have been little significant reduction in outlay on any of the broad cate-

gories, though in the wage-earning group there was a tendency for outlay on drink and tobacco and on miscellaneous goods and services to be slightly curtailed.

Changes in spending in either direction were, however, comparatively small, and the most outstanding conclusion to be drawn from Table VI is that, at these early stages in family development, there

TABLE VII

PROPORTION OF WIVES' AND HUSBANDS' AVERAGE WEEKLY OUTLAY ON EACH BROAD CATEGORY AT FIRST AND AT SECOND BIRTHS

All wives keeping records	Proportion of wives' weekly outlay spent on					
	(A) Basic domestic essentials[1]	(B) Additional needs and recreational items[1]	(C) 'Other items'	(D) Net savings	All items	Average outlay (shillings)
Before first births . .	71·1	19·0	10·3	−0·4	100·0	89·5
After first births . .	73·9	17·2	9·1	−0·2	100·0	92·7
Before second births .	69·6	18·4	8·7	+3·3	100·0	103·7
After second births .	71·1	16·0	9·2	+3·7	100·0	97·6
All husbands keeping records	**Proportion of husbands' weekly outlay spent on**					
Before first births . .	25·5	60·6	8·6	+5·3	100·0	28·7
After first births . .	22·0	55·4	9·1	+13·5	100·0	31·9
Before second births .	40·1	44·7	13·1	+2·1	100·0	48·8
After second births .	29·4	38·6	13·4	+18·6	100·0	60·1

[1] Expressed in terms of January 1951 prices.

Source: Budget records of main sample couples in normal households.

was little change in the broad pattern of family spending. Whether the couples had as yet none, one or two young children, they tended on the average to make a weekly outlay of rather more than £2 (or roughly one-third of their resources) on food, of about £1 (or one-sixth of the total) on accommodation, fuel and light, of another £1 or more on miscellaneous goods (*i.e.* cleaning materials, travel,

recreation), of approximately 12s. (or 10 per cent.) on drink and tobacco, and of about the same amount on ' other items '. In fact, the conclusion reached from an examination of pre-war spending investigations in a recent P.E.P. *Broadsheet*[17] was still valid in the early 1950s, namely that ' people are unwilling or unable to change the pattern of their spending habits drastically when their family circumstances change '.

This does not necessarily imply, however, that both the husband and the wife were equally disinclined or incapable of making modifications in their respective and very different spheres of spending. Of the two, the wife's spending pattern was the less altered. This can be seen in Table VII, where, for the sake of simplicity, the categories have been further combined into only four main groups, Group A being the basic domestic essentials (*i.e.* the first four heads in Table VI), Group B additional needs and recreations (*i.e.* miscellaneous goods, drink and tobacco), Group C ' other items ', and Group D net savings.

The distribution of the wives' resources remained almost unchanged. They had rather more money at their disposal at the second than at the first birth, but at every stage of family development they spent approximately 70 per cent. of the total on basic domestic essentials, 18 per cent. on additional needs and recreational items, and 9 per cent. on ' other items ', chiefly in their case instalments under deferred payment schemes. They saved little for long-term purposes: in fact, at first births they had a slightly negative balance after adjustments for accommodation, fuel and light charges had been made, and at second births they maintained a net savings rate of 3-4 per cent. of their resources only by allowing the family allowance to accumulate to their credit.

The husbands, who had increasing sums of money at their disposal (even in the wage-earning groups not shown separately in Table VII) tended to make an unchanging outlay in their personal and recreational needs, and devoted the increasing excess to domestic essentials or to savings. A rising proportion went to basic domestic essentials, largely because more men in the salaried and commercial group held responsibilities for meeting the heavy charges for accommodation, fuel and light which resulted from removal to a modern dwelling. ' Other items ' claimed a slightly rising proportion and the husbands, as the savers in the households, were putting into bank accounts an increasing share of the total, though their capacity to save was affected by the varying pressures of exceptional demands on the family purse, such as the need to buy baby clothes and equipment before each birth.

[17] Political and Economic Planning (P.E.P.), *Broadsheet No. 344*, Vol. XIX (1952).

To summarise, the general pattern of weekly spending was subject to only minor modifications in these early stages of family growth. The wives obtained a slightly decreasing share in family resources, falling in the wage-earning groups (where their responsibilities were most extensive) from 77 per cent. before first to 72 per cent. after second births. With only slightly increasing actual amounts of money at their disposal they found it best to continue their broad pattern of spending, making few changes. The husbands who did more of the marginal spending directed a part of their increasing share to more essential items and to savings for future needs, though the actual amount of their outlay on miscellaneous and recreational items was not greatly curtailed.

IX

Significance of the Unchanging Pattern of Weekly Spending Behaviour

The use of the Ministry of Labour's interim index for correcting recorded prices to their January 1951 level made it necessary in the previous section to consider the general pattern of spending only in the broadest outline. It is perhaps of some interest to examine the significance of the relatively unaltered spending behaviour in greater detail by reference to outlay on some individual items. For this purpose crude uncorrected data will be used, and comparisons will be restricted to family spending before first and before second births only.

The persistence of unchanging spending patterns suggests that habit and convention may play an important part in determining the level of spending in some categories. This seems particularly true with regard to smoking and some items of spare-time outlay. Previous studies[18] have implied that habits, probably formed in adolescence when young workers first acquired the means to pay for their own leisure activities, tend to be continued into the years of married life and child-dependence, especially by the husband, whose ways of living are less altered by marriage than those of the wife. This seems to have been the case among the Aberdeen families.

Separate figures were obtained in the inquiry for outlay on smoking, reading matter, alcoholic drinks, betting and entertainment (including active participation in games as well as spectator-interest in sports, films and theatre; television had not come to Aberdeen in 1951-52). The inquiry couples were spending an average of 11s. a

[18] These have been summarised by M. Young in *British Journal of Sociology*, Vol. III, No. 4 (1952).

week, or 9 per cent. of their income, on smoking, and approximately 10s., or 8 per cent., on all the other items. Much of the latter went to pay for cinema seats and gate-money for the weekly football match; outlay on reading matter went almost entirely in the purchase of newspapers and weekly magazines and betting was chiefly on the football pools. There was very little spent on drink by the inquiry husbands who kept records.

Neither the proportions of all couples who bought tobacco or cigarettes nor the outlay on smoking were curtailed as families grew; outlay remained at approximately the same level and was enough to provide the couples who smoked at all (and spent an average of 15s. a week) with 80 full-size cigarettes or 110 of the cheaper varieties. On the other hand, outlay on some of the recreational items, *i.e.* betting and entertainment, was cut, at least by the wage-earning families. This was not often the husband's doing, but rather the wife's, since she could only rarely go out to the pictures because of the ties of the young children. The growing pressure of claims on her limited housekeeping money may also have compelled her to cut this type of spending.

When housekeeping resources were as restricted and their distribution as unchanging as we have found them to be, it was inevitable that the wife should spend less per head on many of the items she bought. This did not matter in the case of goods bought for the household as a unit for which demand did not rise with growing numbers, but in many other categories of spending for personal, individual needs, the unchanging level of outlay represented the beginning of a real decline in standards of consumption. For example, families were spending on their food after second births only 8s. more than before the first child was born, although there was the toddler to feed and often milk to be bought for the baby. Admittedly, the children's requirements were not those of adults, and their subsidised milk was cheap, but even so it seems unlikely that they could be adequately provided for by an additional outlay of only 8s. a week, unless there was some reduction in the food standards of the rest of the household.

X

Occasional Purchases of Large Items of Clothing

In addition to their normal weekly purchases and their regular housing payments, families had to provide for their occasional expensive needs, often a major financial problem to those who otherwise organised their spending on a weekly basis.

The demands which large occasional purchases made on the inquiry families could not be estimated from the budget records (see p. 215). Instead, information on this type of outlay during the six months between the antenatal and postnatal interviews was obtained from a representative group of families who also gave to the interviewers details of their spending on special items for the birth. Material was collected in this way on furniture and domestic equipment, as well as on clothing, but the former had to be abandoned as incomplete, chiefly because about one-third of the families were involved in buying furniture through hire-purchase schemes, whose terms could not be adequately translated into expenditure over the six-monthly period.

Details of clothing outlay, given by the wives, represented only a minimum estimate, since some small items, such as stockings and handkerchiefs, seem often to have been forgotten. Information on the husbands' purchases may also have been incomplete. Family clothing was defined as including ready-made garments for husband, wife and older child (but not for the baby) and also wool and material for these garments. Items bought under short-term credit trading schemes were included. So far as the wife's clothing was concerned, garments bought specially on account of pregnancy or admission to hospital were excluded from this analysis, except for a few items, such as overcoats and low-heeled shoes, which would probably continue in use long after the birth and could be regarded as part of her normal wardrobe.

The average level of expenditure on clothing for each member of the family over the six months' period is given in Table VIII. Since these six months were perhaps rather exceptional ones in the family history, when even normal clothing needs for the wife were unusual and such events as the christening called for special outlay, no particular object is served by translating these averages into weekly figures.

Total outlay on family clothing was similar at first and at second births, at least among the wage-earners, though the more fortunate salaried and commercial households allowed their clothing outlay to rise to meet the additional needs of the first child. The wives of the wage-earners seem to have financed their first child's clothing only by economising very considerably in the purchases for their own wardrobes, in spite of their exceptional needs. Here we have an example of the way in which unchanging total outlay may result in falling standards of consumption for some individuals in the family. It may well be typical of the wife's self-denying behaviour over other types of outlay.

Many individual items of clothing were expensive and special financial arrangements had therefore to be made for their purchase. A few wives put money on one side each week in small boxes for this purpose, but in most families the procedure was more sophisticated. Over four-fifths of the husbands had bank accounts (either in the Post

TABLE VIII

AVERAGE EXPENDITURE ON FAMILY CLOTHING DURING THE SIX MONTHS SURVEY PERIOD

	Average outlay on clothing by		
	Salaried and commercial families	Wage-earning families	All families
Husbands' clothing at			
First births	£4 16 11 (*12*)[1]	£3 18 9 (*66*)[1]	£4 1 4 (*71*)[1]
Second births	£6 19 4 (*16*)	£3 7 11 (*60*)	£3 12 2 (*69*)
Wives' clothing at			
First births	£12 3 4 (*12*)	£10 11 8 (*66*)	£10 18 10 (*71*)
Second births	£11 4 4 (*16*)	£6 17 7 (*60*)	£7 5 10 (*69*)
Older children's clothing at			
Second births	£5 2 1 (*16*)	£4 2 7 (*60*)	£4 3 8 (*69*)
Total family clothing at			
First births	£17 0 3 (*12*)	£14 10 5 (*66*)	£15 0 2 (*71*)
Second births	£23 5 9 (*16*)	£14 8 1 (*60*)	£15 1 8 (*69*)

[1] The figures in brackets show the number of families in each group. The number of salaried and commercial families includes some additional families of this class as well as main sample cases.

Source: Aberdeen Budget Inquiry, birth costs, etc., lists from normal households.

Office, the Aberdeen Savings Bank or elsewhere), and during the record-keeping weeks a number of couples made withdrawals from these savings to buy garments for the family. Others made use of their Co-operative Society dividends on purchases; about three-quarters of all inquiry families were Co-operative Society shareholders, the proportion being greatest (90 per cent.) among the households of unskilled workers. It seemed generally agreed that the disposal of the half-yearly dividend should be in the hands of the wife.

As already mentioned, the women had a further opportunity for accumulating funds for expensive purchases when they became eligible after the birth of the second child for the statutory family allowance.

The way in which the allowance (5s. a week in 1951-52 for each child except the first) was paid helped them to save. Once applications had been accepted by the Ministry of National Insurance (which administers the scheme although it is not on a contributory basis), the wives were provided with a book of counterfoils to cover their entitlement during the following year. These might be cashed each week at the local Post Office, but they might alternatively be left to accumulate for any period up to six months, when they could be claimed in a single lump sum. Many of the 114 women co-operating after second births took advantage of this; so far as can be judged from their behaviour after receiving the allowance for only three months, it seems that over 70 per cent., at least, intended to let it accumulate in this way for exceptional purchases, either for the children or for the household in general.

There was one other method by which occasional expensive purchases could be financed, *i.e.* by deferred payments under instalment schemes. Although instalment purchase was more common for furniture than for clothing, the short-term facilities offered by credit traders and mail-order houses for clothes-buying were also quite popular in Aberdeen, particularly with the households of unskilled workers, among whom at second births more than half had these types of instalment commitments.

The extent to which individual families patronised these schemes varied from those obtaining only a single garment, *e.g.* a raincoat for the husband or slippers for the wife, to the confirmed users who bought all their clothing in this way. Some of the inquiry families thought that the garments provided by the instalment firms were rather dear or else poorly finished; others were quite satisfied and very much appreciated the instalment facilities provided.

XI

Financing the Special Costs of Childbirth

In addition to recurrent and occasional outlay on normal needs, the inquiry families were all faced with exceptional demands on their resources on account of childbirth. Details of these special costs were collected from a representative group of 216 families during the six months between antenatal and postnatal interviews. Since the women were all confined free of charge under the National Health Service, they did not pay any medical or hospital fees, and their expenditure was devoted entirely to their own special maternity garments, to

clothing and equipment for the baby, to advertising the birth, to christening costs and, for some, to domestic help and taxi fares to and from the hospital.

The total cost of these items at post-war prices is high.[19] While there was considerable variation in the outlay of individual inquiry families, the average sum paid for all these items was £33 at first births and £17 at second births. The older families who had one child spent less on the second birth, not merely because of the need to economise but also because they already had a stock of baby things. On first births the skilled workers' wives spent slightly more than our not entirely representative group of salaried and commercial wives (*i.e.* £35 and £34 respectively) while the wives of non-skilled workers paid a good deal less (£28), but outlay at second births followed the class gradient, falling from the £21 paid by the salaried and commercial workers to £18 by the skilled and £14 by the non-skilled; the wage-earning households economised at second births even more than the others.

At first births about half (£17) of the total outlay was spent on baby equipment, one-third (£11) on the layette (including wool and material for baby clothes), and most of the remainder on maternity garments. There was little outlay on the other items: domestic help during the wife's confinement or after her return from hospital was paid for by only a few families (5 per cent. at first births and 11 per cent. at second), and in most of these cases the money was given to friends or relations who came in to help. About three-quarters of the families paid taxi fares to and from the hospital (at an average cost of 10s.); the ambulance service was not available for normal confinement cases. It was usual for the families to spend something on the christening celebration and also on advertising the birth in the local newspaper.

The most important and costly item of baby equipment was, of course, the pram, and its provision at different stages typified the attitudes of the inquiry couples to the whole question of preparing for first and second births in the family. Wherever possible, they would attempt to provide a large new pram, costing £20 or more, for the first baby. Almost two-thirds of them did this, either by purchase (52 per cent.) or gift (10 per cent.); the rest contented themselves with second-hand models, for which they paid an average sum of £6. Only one family went without a pram of any kind. At second births, however, only 25 per cent. acquired a new pram, 33 per cent. went to the second-hand market, and as many as 42 per cent. used the first

[19] Cf. Royal College of Obstetricians and Gynaecologists and Population Investigation Committee, *Maternity in Great Britain* (1948).

baby's pram again. In other words, many couples started off their career of parenthood by attempting to make relatively resplendent provision for the first child, which they did not repeat for the second. This happened in connection not only with equipment but also with the layette.

The lavish provision for first births was often achieved through the generosity of relations and friends. When compiling lists of special birth costs the interviewers also kept an account of all gifts received, either new or second-hand. In order to compare them with purchases, these gifts were valued at the current market price paid by inquiry families for similar items; second-hand gifts were given an arbitrary value of half this price. On this basis, gifts (chiefly of baby clothes and equipment), were found to have an average value of as much as £15 at first births and £7 10s. at second, *i.e.* very nearly half as much again as the total outlay made by the couples themselves. But of course some of these gifts, such as fancy bootees, mittens, and the occasional satin dress or embroidered quilt and pillow set, were not really practical supplements to the couple's purchases. A very rough attempt was therefore made to eliminate these 'luxury' items by including among 'essential' gifts only those types of goods which the wife had not provided in her own buying. For instance, a gift of baby gowns was taken to be 'essential' only if no gowns had been purchased at all.

It was found, by this rather crude method, that the inquiry families received 'essential' gifts worth, on the average, £9. The salaried and commercial families were much more fortunate than the others, obtaining as much as £25 worth of gifts, an amount equivalent to 42 per cent. of the total value of gifts and purchases combined. The wage-earners' families were assisted only to the extent of about £8 worth of gifts, or one-fifth of the lower value of their total provision, but even in these less well-endowed groups gifts still played an important rôle. A comparison between the layettes acquired by the inquiry families for first babies and the standard list of baby clothes recommended by the antenatal clinic showed that many of the families were equipped with an adequate outfit only as a result of receiving these gifts. Presents on childbirth were an important supplement to the couples' own purchases.

Of course, the families did not have to finance all their purchases for the birth out of their contemporary resources or savings; they could call on several exceptional sources of financial aid. For one thing, relatives and friends not only provided gifts in kind but also gave money to the great majority of couples (85 per cent.), the average

sum received being in the region of £5 10s. at first and £3 at second births. Here, too, the salaried and commercial couples were better endowed, at least at second births.

Even more important were the statutory maternity benefits. In 1951-52 the maternity benefit scheme, a part of national insurance, provided three types of financial aid at childbirth.[20]

1. The maternity grant, a lump sum of £4, available in the weeks just before the birth of each child, was 'intended to help all mothers with the general expenses of their confinement'.

2. The attendance allowance of £1 a week for the four weeks following confinement was 'designed to assist in paying for domestic help after childbirth'.

3. The maternity allowance, paid to working women at the weekly rate of 36s. for thirteen weeks (six before and seven after the birth), was provided to compensate for loss of earnings on account of childbirth. It was granted only if the wife ceased work during the prescribed period, but to become eligible for it she had to work up to the sixth month of pregnancy. Those receiving this allowance were entitled to the maternity grant as well, but not the attendance allowance.

Under this scheme, therefore, a non-employed woman received a total sum of £8, and a working woman who satisfied the necessary conditions obtained the £4 maternity grant plus the additional (maintenance) allowance, whose total value was £23 8s. Almost all inquiry wives were eligible, only three failing to benefit because they or their husbands had not made enough national insurance contributions to qualify. Most wives drew only the £8, though 16 per cent. at first births and 4 per cent. at second were awarded the working woman's maternity allowance. The use made of the benefits was described by the wives at the postnatal interview.

Although the maternity allowance was intended for maintenance, only half of the few recipients (*i.e.* 11 out of 22) used it for general housekeeping purposes; the others spent it chiefly on baby things, and from their comments it appears that some of them stayed at work till the later months of pregnancy with the express purpose of financing their special birth costs in this way. The uses made of the other, more generally received, benefits is shown in Table IX.

Most families spent the maternity grant on baby things; even the attendance allowance was quite frequently used for these purchases and very rarely for its intended purpose, the payment of domestic help. The period at which the benefits became available, *i.e.* in very late pregnancy and after the birth, possibly explains why a consider-

[20] Ministry of National Insurance, *Maternity Benefits* (1952).

TABLE IX

IMMEDIATE USE OF MATERNITY BENEFITS

	No. of families	Percentage spending benefit directly on				
		Layette or baby equipment	Domestic help	Housekeeping or savings	Other purchases	Total
Maternity grant at		%	%	%	%	%
First births	*108*	85	0	13	2	100
Second births	*105*	68	1	14	17	100
Attendance allowance at						
First births	*90*	53	4	36	7	100
Second births	*101*	36	8	39	17	100

Source: Aberdeen Budget Inquiry, postnatal questionnaires.

TABLE X

SPECIAL OUTLAY AND FINANCIAL AID AT FIRST BIRTHS

	Average for families of			
	Salaried and commercial workers	Skilled wage-earners	Unskilled wage-earners	All classes
Value of couples' purchases	£34 2 0	£35 7 7	£28 1 4	£33 0 6
Financed out of				
Private money gifts	£5 11 11	£6 8 5	£3 3 11	£5 10 3
Statutory grants[1]	£7 15 0	£7 4 10	£7 5 0	£7 5 3
Own resources	£20 15 1	£21 14 4	£17 12 5	£20 5 0
Percentage of couples' purchases covered by	%	%	%	%
Private money gifts	16	18	11	17
Statutory grants	23	21	26	22
Own resources	61	61	63	61
Total	100	100	100	100

[1] *I.e.*, maternity grant and attendance allowance, if obtained.

Source: Aberdeen Budget Inquiry, birth costs, etc., list.

able proportion of families added their benefits (especially the attendance allowance) to general housekeeping resources or used them for other purchases, such as the older child's clothing. Having previously financed most of their special requirements for the birth out of savings or piecemeal from the housekeeping money, they used the benefits to replenish the stock of their private resources.

The considerable aid which the inquiry families received in private money gifts and statutory benefits is summarised in Table X, which sets average outgoings against average receipts at first births in each broad social group. The lower part of the table shows the proportions of total outlay covered.

TABLE XI
SPECIAL OUTLAY AND FINANCIAL AID AT SECOND BIRTHS

	Average for families of			
	Salaried and commercial workers	Skilled wage-earners	Unskilled wage-earners	All classes
Value of couples' purchases . . .	£20 17 7	£17 19 4	£14 0 10	£17 9 6
Financed out of				
Private money gifts	£4 9 8	£2 19 8	£1 17 8	£2 19 3
Statutory grants[1] .	£7 2 3	£7 15 3	£8 0 0	£7 14 0
Own resources .	£9 5 8	£7 4 5	£4 3 2	£6 16 3
Percentage of couples' purchases covered by	%	%	%	%
Private money gifts	22	17	13	17
Statutory grants .	34	43	57	44
Own resources .	44	40	30	39
Total	100	100	100	100

[1] *I.e.*, maternity grant and attendance allowance, if obtained.

Source: Aberdeen Budget Inquiry, birth costs (etc.) lists.

The families received financial aid equivalent to 40 per cent. of their own total outlay on the first baby. In relative terms, each social group was subsidised to a similar extent. The costs which the couples were left to meet out of their own pockets amounted to approximately £20. This was undoubtedly a large sum for many families, being equivalent, in the average wage-earner's household, to

roughly three weeks' income or four weeks' housekeeping money; the actual outlay was spread, of course, over several months of preparation.

A similar comparison of aid and outlay is presented for second births in Table XI.

At this stage aid from private money gifts was less than at first births. Since, however, total outlay was very much lower, while the level of statutory benefits remained unaltered, the proportion covered by the two forms of assistance was considerably greater, being about 60 per cent. in the salaried and commercial and the skilled workers' families, and as much as 70 per cent. in the non-skilled. Couples expecting a second child had to find from their own resources an average sum of only about £7; the two types of private and statutory subsidy gave them a reasonable degree of assistance with the expenses they incurred. Whether or not their purchases represented an adequate provision for the second baby is a question which, in the absence of complete details of the stock of clothing and equipment left over from the first birth, cannot be answered here.

XII

Implications for Social Policy

It is now thirty years since Miss Eleanor Rathbone first drew attention to the inadequacy of the wage system of industrial society as a means of financing the changing needs of the family unit.[21] Her plea for more accurate information on the economic problems of the family has to some extent been met by the poverty and nutrition studies of the inter-war years, the Beveridge Report and the Royal Commission on Population. Moreover, such measures as the war-time Forces' dependants' allowances, the Family Allowance Act (1945) and the extension of maternity provision are all evidence of the growing public awareness that special aid must be given to families supporting young children.

Nevertheless, the Aberdeen inquiry, which examined family finances only in the early years of child-dependence, underlines the conclusion of the Royal Commission on Population that in Britain we are still a long way from eliminating the relative hardships associated with having a family. Even in the years when the burdens of family maintenance were just beginning there were indications that the inquiry couples, and especially the wives, were already being faced with the

[21] E. Rathbone, *The Disinherited Family* (1924), revised in 1949 under the title, *Family Allowances*.

need to redirect, if not curtail, their spending, *e.g.* on food and the wife's clothing, in order to provide for the children. The degree of financial stringency after the second birth was not yet so great, however, as to compel the majority of wives to use their newly acquired family allowance every week for current needs, though the fact that most of them chose to save it may in part have been due to the method by which it was paid, and in part also to the rather low weekly rate of 5s., which did not go far towards supplementing housekeeping money.[22]

The ultimate goal of family-aid policies has been described in a recent United Nations publication, *Economic Measures in Favour of the Family* (1952), as the equalisation of the standard of living of the family supporting children with that of persons without dependants. While it is difficult to make a precise measurement of the differing standards and needs of families with and without children, it seems clear that the family-aid policies now in operation in Britain, *i.e.* the school meals and welfare foods services, the maternity benefits and the family allowances, are only the first steps in the direction of this goal. The Royal Commission on Population described the present family allowance scheme as a ' meagre ' start in family endowment (*Report*, p. 166). The Ministry of National Insurance have defined it as only ' a financial contribution to the cost of bringing up every family of two or more children ',[23] and support this view by granting supplements to the allowance when families are living on sickness or unemployment benefit. To cover maintenance at 1952 prices the allowance would have to be raised to at least 15s. a week, even at the low estimate of subsistence needs made in the Beveridge Report. It would also have to be granted for the first as well as for subsequent children. Only in these, at present unlikely, circumstances, or under conditions where a similar degree of subsidy was given in a different form, could it be claimed that the British family-aid policies were nearing the goal set by the United Nations.

The recent start in family-aid measures in Britain during and since the war has had little permanent effect on national birth-rate trends, which after the temporary post-war baby boom have now fallen a good way towards their previous levels. It is doubtful whether financial inducements in themselves can in fact bring about a reversal of the long-term tendency towards smaller families.

When the running costs of maintaining children are high, the fact of a grant on the single occasion of childbirth is not going to influence

[22] The rate was raised to 8s. in September 1952 to keep pace with cost of living increases.

[23] Ministry of National Insurance *Report 1944-1949* (1950).

couples' decisions on family-building. But although demographically negligible, the maternity benefit scheme, as it operated in 1951-52, was by no means insignificant in subsidising heavy childbirth costs. Help from this source is now on a rather more generous scale: the National Insurance Act (1953) provided for the consolidation of the maternity grant and attendance allowance into a lump sum of £9 (instead of £8), which is now paid in the weeks preceding confinement, before final preparations have been completed. In addition to this enlarged grant, mothers who choose to be confined at home can claim an extra £3 for the exceptional expenses considered to be associated with domiciliary confinement. Working women, who now all qualify for the grant of £9, can (if they have been making their full national insurance contributions) claim the special maternity allowance for eighteen (instead of thirteen) weeks, starting eleven weeks before the expected date of confinement; the weekly rate of the allowance is, however, reduced to 32s. 6d.

These changes are interesting in several ways. The amalgamation of the old maternity grant and attendance allowance seems both a tacit recognition of the high costs of preparing for the baby and a confession of the failure of the attendance allowance to stimulate the demand for paid domestic help at childbirth. Whether the continuation of a flat rate of grant for all births, first or subsequent, is the most effective form of assistance, is open to question. At first births parents' expenses (especially when they buy the fashionable full-sized pram) are particularly high. In Aberdeen a few women seem to have stayed at work during their first pregnancy with the primary object of financing their special costs with the maternity allowance. If this is a common practice, there is probably a case for giving a larger grant at the first birth than at subsequent ones. This is now done in France under certain conditions,[24] and was recommended for Britain by the Royal Commission on Population as an interim measure until such time as the family allowance scheme should be extended to include the first child. It would certainly enable couples to make more adequate provision at the start of family-building, without having to rely so much on the generosity of friends and relations.

In Britain's present economic circumstances and the current climate of opinion on social issues it would be unrealistic to expect even the moderate advances in social policy towards still greater family assistance which the Royal Commission on Population proposed. There is in fact a danger that, in the relaxation of war-time controls and the removal of subsidies and rationing, families with children will find

[24] United Nations *Economic Measures in Favour of the Family* (1952).

the increased cost of foods more difficult to meet than other types of households.[25] It is particularly important to make sure that this does not result in a repetition of the pre-war situation, *i.e.* a low standard of family living during the children's formative years. In order to avoid this recurrence it is necessary to follow the changing fortunes of families with children in the altering economic situation. A watch on family standards is kept in the first instance by health visitors, teachers and doctors, but their observations could well be supplemented by a continuing review, possibly on lines similar to those of the National Food Survey, of the economic circumstances of families with dependent children. Such a review would show where the shoe pinches most, and would suggest how the limited resources at present available for family aid might be administered to give the most effective relief and assist in the long-term policy of raising minimum standards of living in the years of child dependence.

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Aberdeen

[25] Cf. the conclusions of A. M. Henderson in his paper on the cost of children, *Population Studies*, Vol. IV, No. 3 (1950).

INVESTMENT IN THE SCOTTISH PIG IRON TRADE, 1830-1843

In the 1830s the economy of the south-west of Scotland changed radically from being based mainly on trade and the manufacture of cotton to the present-day structure with its emphasis on the heavy industries. This change stemmed from the development of the iron industry. In 1830 Scottish production of pig iron was 37,000 tons; in June 1843 the figure was about 300,000 tons annually. More strikingly, this increase was not shared by the whole of the British iron trade, since the Scottish output rose from 5 per cent. of total British production in 1830 to about 25 per cent. in 1843, a proportion above which it rose only slightly during the nineteenth century. The cause of this remarkable increase was the use of blackband ironstone made possible through the hot-blast patented by J. B. Neilson in 1828. Such a technological change opened up great possibilities to producers. This article examines the ways in which they reacted to these opportunities under the changing economic circumstances of a complete trade cycle.[1]

I

Before 1830 it seemed unlikely that the Scottish iron industry could acquire a prominent position in the British economy. Unlike many other Scottish industries, it was not experiencing even a mild form of prosperity at this time. This depression was not of a cyclical nature but was a long-term stagnation which had persisted for some time with only slight variations. There had been a slight advance at the end of the eighteenth century when several ironworks were founded: Wilsontown (1779), Muirkirk (1787), Clyde (1786), Glenbuck and Devon. After a short interval Calder, Shotts and Markinch followed at the turn of the century. But many of these works found themselves in difficulties during the Napoleonic Wars: Glenbuck, Wilsontown and Markinch went bankrupt, while at Muirkirk an almost desperate effort was made to sell the works to the landlord on moderate terms. Yet in

[1] Much of the information for this article has been obtained from three sources to which detailed acknowledgment is not given: the Scottish press of the period; the *Mining Journal;* and the Hamilton MSS at Lennoxlove, Haddington, the Estates Office, Hamilton, and the Register House, Edinburgh. I am indebted to His Grace the Duke of Hamilton for access to the latter and to the facilities granted when examining them.

England, on the other hand, during this period there occurred only a slight depression in 1812, through which the majority of firms passed unscathed. The industry in Scotland was small and struggling and little improvement seemed likely. Even in 1825 at the peak of the boom, when the iron industry elsewhere in Britain was expanding, the only developments in Scotland were the foundation of the Monkland Iron and Steel Company and the flotation of the Shotts Ironworks as a joint-stock company.

The Scottish trade was in this difficult position because of its high costs of production. In 1829 one ton of pig cost 82s. to produce at Clyde and 78s. at Calder. Coal, valued at 5s. per ton, represented 50 per cent. of these total costs; very large quantities were required as Scottish coal, because of its high carbon percentage, lost 55 per cent. of its content when coked. Even the rich and low-rented fields of blackband ironstone led to little saving at first, since the advantages of this ore were considerably reduced by its refractory nature when smelted with cold-air in the small furnaces which were then common. Consequently J. B. Neilson could argue that ' unless as much as £6 per ton could be obtained for the iron no profit was realised, on account of the heavy expenses attending the furnaces '.[2]

Scottish producers therefore could not compete with others and their iron was priced out of most markets. Although 3,190 tons entered Liverpool in 1830, Scots iron was little known in England except for certain small castings in the Manchester area. It was considered inferior to Welsh iron and it was too expensive. The Scottish trade managed to survive only because it could still compete at home. The cost of transporting iron from England and Wales was too high to price the Scots out of these sheltered markets. Yet even they were gradually being lost as transport costs fell with improved communications. With the further reduction which the railways were to bring, Scottish iron would have been priced out of its home markets as well. If the trade was to survive it was therefore essential to lower production costs. The only other possible alternative would have been to develop specialised products such as those of Carron. But pig iron was to be the basis of the future Scottish trade and it was ' saved from certain ruin ' by the invention of the hot-blast.[3]

[2] J. B. Neilson, ' On the construction of hot-blast ovens for Iron Furnaces,' quoted by T. B. Mackenzie, *Life of J. B. Neilson* (Glasgow, 1929), p. 13.

[3] M. Dufrenoy, Engineer of Mines, ' Report to the Board of Directors of Bridges, Public Roads, and Mines, upon the use of Heated Air in the Iron Works of Scotland and England ' (Paris, 1834), translated by S. V. Merrick in the *Journal of the Franklin Institute,* Vol. XV (NS), p. 212.

II

The hot-blast is an example of a speculative investment which was successful and therefore had the expected results—high profits and great expansion. It was speculative, in the first place, because it ran completely counter to the accepted beliefs and customs of the trade. Previously it had been thought that the colder the blast the better the iron, because better iron was produced in winter than in summer, but the real reason for this was that the atmosphere in cold weather was less humid.

Secondly, the innovation was made in an industry which had experienced almost a quarter of a century of stagnation. Not surprisingly, those who pioneered the invention were for the most part without any previous connection with or experience of the trade, and therefore lacked its prejudices. Carron, the only ironworks in Scotland which had been established for a considerable time and had enjoyed prosperity, long remained the only Scottish works which did not use the hot-blast.

With the introduction of the hot-blast costs fell rapidly because coal consumption was cut by at least 50 per cent. This fall was intensified when it became general practice to substitute raw coal, first used in 1831, for coke. At Muirkirk coal consumption fell from $7\frac{1}{4}$ to $2\frac{1}{4}$ tons per ton of iron produced, and at Monkland from $7\frac{1}{2}$ to 2 tons. In addition there was a saving of about 7 cwt. of limestone and 4s. of wages per ton. Moreover, mineral royalties and labour costs were both low. A common lordship for ironstone in the early 1830s was from 1s. to 2s. per calcined ton of $22\frac{1}{2}$ cwt. Elsewhere the British Iron Company, for example, took a lease in 1824 at a royalty of 12s. per ton, and was forced in the depression years to obtain a reduction to about 8s. The only other prime cost was labour and in Scotland there were plenty of Irishmen and Highlanders, especially the former, who could be used as blacklegs to break any strikes and so keep the price of labour low. Since labour and mineral royalties were the chief components in the prime costs of iron production, it is little wonder that the Scots firms at this time were reputedly producing at 27s. 6d. per ton; at Muirkirk at one point the pig iron was produced at 25s. per ton. There, however, the cost of the minerals was unusually small, the lordship on coal being only 1d. per ton and on ironstone 3d. per ton. These costs may have been exceptionally low, but in 1833 at Clyde the normal cost of production was 49s. 6d. per ton and at Calder 47s. 6d., coal accounting for only 20 per cent. of the total cost. This was a fall in the cost of production of about 40 per cent. from 1829.

There were now immense possibilities for the extension of the Scottish trade. Sales were easy and the Scottish producers invaded new markets. In Scotland the engineering firms and foundries, working in many cases for overseas customers, could be supplied cheaply, and these provided a ready market. In addition, throughout England at this time engineers were buying Scottish hot-blast iron for the first time, and finding it satisfactory. Previously Scotch pig had always been priced higher than Welsh in the Liverpool market, but under the new circumstances it was priced lower, and from being of no importance there rose to the position of the most important feature. At Liverpool in July 1833 it was quoted at £4 15s. while Staffordshire iron sold at £6. In Sheffield its quality was found to be 'exceedingly good and the price, even with transport costs added, was so low that at the end of April 1834 the Yorkshire and Derbyshire ironmasters were forced to reduce No. 1 pig by 10s. per ton and Nos. 2 and 3 by 7s. 6d. Even those who were prejudiced against the hot-blast used some of it. It was held to be insufficiently strong, especially for large castings, and was disliked by marine engineers. Some specifications, including Government ordnance, excluded the use of hot-blast iron. But those who were doubtful of its strength were convinced by its price. At Muirkirk in 1839, because of complaints about the hot-blast, 221 tons of cold-blast were made; Robert Napier took 54 tons and two other consumers 29 tons between them, but the rest had to be used in the works itself for malleable iron and castings. At a price 30s. a ton higher than the hot-blast iron it was unsaleable. With its outlook and prospects thus changed the Scots iron trade moved from stagnation towards great prosperity and expansion.

III

Three fairly distinct phases of development can be distinguished in the reactions of entrepreneurs during this rise of the Scottish iron trade. First came the phase of the pioneers, mainly the Bairds of Gartsherrie, who exploited the advantages of the hot-blast and the blackband ironstone. The second phase, from about 1832 to 1837, is marked by the expansion of the existing works. During the third, starting about 1837, a considerable number of people new to the iron industry began production.

Table I shows the firms which were most prominent in the three phases and the extent of the works at approximately each change in the development.

TABLE I

THE NUMBER OF BLAST FURNACES AT DIFFERENT PERIODS, 1830-43

Ironworks	Before expansion 1830	At peak of boom 1836	At bottom of depression 1843		
			Total	In blast	Out of blast
First phase firms					
Gartsherrie	—	5	16	10	6
Calder	4	5	8	5	3
Monkland	2	3	5	5	0
Second phase firms					
Carron	5	5	4	3	1
Clyde	4	4	7	3	4
Devon	3	2	3	0	3
Dundyvan	—	4	9	7	2
Muirkirk	3	3	4	2	2
Omoa	—	1	1	1	0
Shotts	1	1	3	2	1
Wilsontown	2	1	1	0	1
Third phase firms					
Blair	—	—	3	0	3
Carnbroe	—	—	6	3	3
Castlehill	—	—	2	0	2
Cessnock	—	—	2	0	2
Coltness	—	—	4	3	1
Garscube	—	—	2	0	2
Glengarnock	—	—	2	2	0
Govan	—	—	5	5	0
Househill	—	—	2	0	2
Langloan	—	—	3	2	1
Summerlee	—	—	6	3	3
Total	24	34	98	56	42

Sources: H. Scrivenor, *History of the Iron Trade* (London, 1854), p. 135; J. Cleland, 'Former and Present State of Glasgow', in the *Transactions of the Glasgow and Clydesdale Statistical Society*, 2nd November 1836, p. 50; *Mining Journal*, 2nd December 1843.

The first phase was in brief the phase of the Bairds of Gartsherrie, who put their first furnace into blast at 10 a.m. on 4th May 1830 and produced 3,100 tons in the first year. The event is significant because the Bairds from this first appearance in the iron trade rose to become the chief Scottish producers, with 25 per cent. of the total Scottish output, and leaders in the commercial life of Scotland. They took the greatest risk in exploiting the innovation, and as it was successful

made large profits, clearing almost £270,000 between 1832 and 1840. By the 1870s they were reputed to be earning £750,000 a year and in size Gartsherrie was second only to Dowlais. There are doubtless many reasons for their success but their ability as entrepreneurs is of major importance. This enabled them to develop the new inventions and to obtain some of the best sites and mineral rights long before

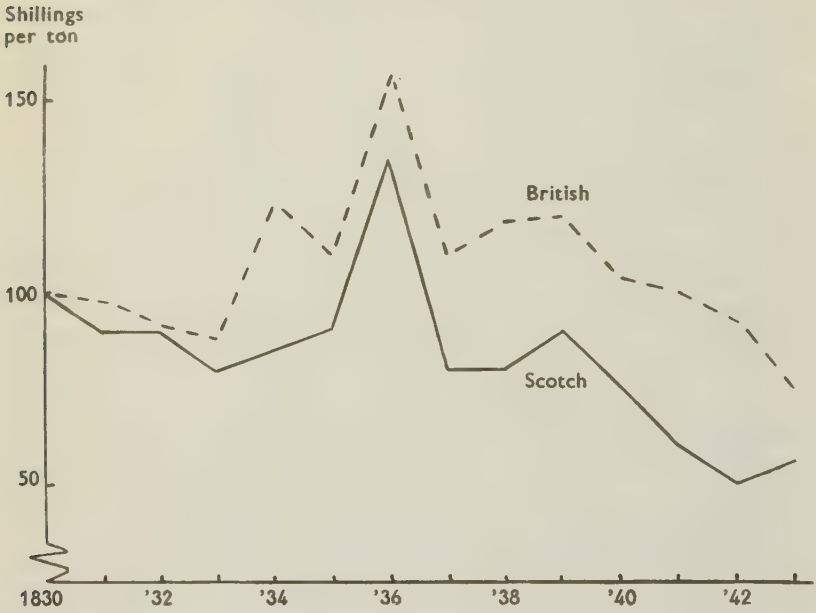

FIG. 1. Annual average prices of Scotch and British pig, 1830-43.

Sources: Scotch pig: J. Barclay, *Statistics of the Scotch Iron Trade* (Glasgow, 1850), p. 20.

British pig: A. D. Gayer, W. W. Rostow, A. J. Schwartz, *Growth and Fluctuation of the British Economy, 1790-1850* (Oxford, 1953), Vol. I.

others were even interested in acquiring them. Consequently their position was never challenged. Only two other works, both of which had been involved in earlier experiments with blackband ironstone, benefited in the first phase of the expansion—Calder, where four furnaces were built in 1830, and Chapelhall (Monkland Iron Co.), where two were built. These few pioneers were sufficient to demonstrate the possibilities and were highly successful. New markets were opened up at once, the industry in Scotland was soon working at full employment and there was immediate prosperity. Prices, however, fell until 1834, because of the reduction in costs and the increased productivity. They rose sharply only in the excited conditions of 1836,

when supply was inelastic and costs were no longer falling. But the lower level of prices before 1834 was sufficient to warrant ' unusual activity in all the furnaces around Glasgow '.

Out of Scotland, where the technological benefits of the hot-blast were still inoperative, recovery was longer delayed and did not get fully under way until 1833. When the height of the boom was reached in 1836 business in Scotland was doubly prosperous since in addition to the high level of demand the producers had also low production costs. The reports are all of large profits being earned; one company was reputed to be earning £500 a week. On the 27th January 1836 Kirkman Finlay described the profits as ' immense ' and held that ' the rise within the last six months makes to Mr. Colin Dunlop a difference of £60,000 a year '.[4] These days of the second phase were in fact the halcyon days of the Scottish trade, which was never to reach such prosperity again.

The distinguishing features of the second phase of the expansion were first that the great advantage of low costs of production led to high profits being reaped by only a few ironmasters, and secondly that the expectations thus engendered led to an extension of capacity by the existing makers. In 1831 the Monkland Iron Company built a third furnace at Chapelhall; the Bairds built a second in September 1832 and a third in April 1834, when they also decided to build four more. In addition they ' purchased every foot of ground which they can obtain in the neighbourhood, and have likewise taken leases of what could not be bought '. The foundations of their empire were therefore laid before 1835. In 1833 Colin Dunlop, from Clyde, and John Wilson started Dundyvan, which was to be Gartsherrie's rival in size, and took a large area near Coatbridge to work for minerals. Wilsontown, which had had a chequered career and disappointed many hopes, was reopened in April 1834 by Dixon of Calder, who had purchased it some years previously but had soon closed it down. Omoa, ' which had been a scene of desolation for a number of years ', was restarted at the beginning of 1835. In June of that year six furnaces were being built in Scotland by established producers—three at Gartsherrie and one each at Monkland, Calder and Dundyvan—and those works which did not extend their plant were able to increase production by the use of the hot-blast. The blackband ironstone was

[4] *James Finlay and Co.* (Glasgow, 1951), p. 140.

leased rapidly and on the Hamilton Estates in North Lanarkshire almost all the ironmasters were eagerly prospecting for it.[5]

In the first and second phases the investment which producers undertook was desirable, from their point of view at any rate, as it could have been profitably maintained without difficulty even at a more normal level of demand. But in 1836 signs of impending trouble might have been expected to cause a revision of expectations. This did not happen and the movement of resources into the industry continued unabated. The year began with the iron trade in a state of 'almost unexampled activity'. In the early part of the year a rising demand was meeting an inelastic supply and prices shot up by one leap of £2 per ton in January to bring about an average of £6 15s. per ton for the year; this was greatly in excess of the average for other years. In addition to the vastly increased demand from consumers the trade began to suffer in 1836 from speculative demand, although this did not reach the level of a decade later. By the spring of the year, however, there were signs of danger in spite of the current prosperity. In March the *Mining Journal* issued warnings to the 'capitalist as to the investment which present prices, without reflection, might induce him to make' and prophesied a 'serious reaction' if any further investment were undertaken. Even discounting the rather lugubrious attitude which the *Mining Journal* usually took towards these matters, it was becoming increasingly clear that the current state of affairs could not last. These gloomy prognostications, however, were roundly confuted from Scotland in a letter to the Editor which argued that 'the demand for iron during the last six months has been quite unprecedented. The present make of Scotch pig iron is engaged for the next few months to come.' But the *Mining Journal*'s warning was against any further investment, and to their detriment the Scots ignored it. Secondly, labour troubles appeared. Food prices were rising at the close of 1835 and, perhaps as a result, the miners formed the Coal Miners' Association in that year. This played an active part during the next two years, directing its activities particularly

[5] Muirkirk was an exception, in two ways, to these generalisations about the second phase. First, after having experienced difficulties, it was taken over in 1834 by a copartnery of people new to the trade in order to be run in its 'formerly extensive manner'. Secondly, though the new owners were a group of 'talented and influential capitalists', including James Ewing, the calico printer from the Vale of Leven, and Robert Napier, the engineer, it was perhaps the only works which at this time was not highly successful. This lack of success was probably due in the main to a bad situation.

against the ironmasters.[6] In the spring of 1836 the colliers demanded higher wages, leading the ironmasters to threaten to stop half their furnaces. Lastly, but by far the most important, prices were becoming so high that many consumers, particularly in the foundries, were finding it difficult to carry out profitable production. The *Stirling Journal* pointed out that in its neighbourhood only Carron was still able to continue at a high level of activity. As a result, in November 1836 the Scottish ironmasters were forced to reduce the price of their pig from £7 to £6 per ton.

In the United Kingdom the year was one of gradually increasing difficulty, which was brought to a head when Bank Rate rose to 5 per cent. in August in reaction to a demand for bullion by the United States which had become serious in May. The crisis was felt more heavily in America than in the United Kingdom, where the first troubles appeared in Ireland with the suspension of the Agricultural Bank; but, though this suspension created alarm in Scotland, it did not lead to a decline in activity anywhere, least of all in the iron industry. No attention was paid to the warning and on the last day of August the *Aberdeen Journal* was almost lyrical about the prosperous times: 'From all quarters of the country we hear the same account of activity, industry and comfort; trade is everywhere thriving; the people are contented and cheerful; there are no murmurs of discontent to mar the fair picture of domestic happiness.' Even when it reported the fall in the price of pig iron in November, it spoke of 'unexampled prosperity' in the trade, relying for this assertion on the fact that for 1836 the industry had cleared £300,000 more in profits than in 1830. Only the *Mining Journal* was interested in the future; everyone else looked to the past and thought that prosperity would go on for ever.

This belief was shattered in December when the South Wales ironmasters agreed to reduce their make by 20 per cent., an agreement the Scottish ironmasters are alleged to have accepted but do not seem to have implemented. Nevertheless, though the Scots were not severely affected that winter, in January they did agree with the English ironmasters to put one furnace out of blast in each ironworks. But the

[6] The Association was probably justified in directing its chief efforts against the ironmasters rather than against the salesmasters. The demand for coal for the blast furnaces was the largest single item in total demand; it also fluctuated much more than the relatively stable domestic consumption. Consequently, at times the ironmasters had to pay high wages in order to obtain the necessary production of minerals, and of course they as readily lowered wages when the demand for iron fell. Moreover, the ironmasters usually mined their own coal and some of them, such as the Bairds and James Merry, were also salesmasters. They were therefore able to act independently of the salesmasters who, in wage matters, had to follow suit.

crisis which had been brewing for almost a year, and which was to start a period of depression lasting until about 1843, did not break in Scotland till March 1837, when it ' burst with great violence ' and threw down prices ' with great rapidity '.

IV

In spite of the considerable expansion in the fixed capital of the industry between 1830 and 1837 there was no long-lasting idle capacity because the Scottish economy fared better than the English. When the break in prosperity first came in March 1837, a period of depression had been expected in Scotland. Some of the largest manufacturing establishments restricted their activities, one of them paying off nearly a thousand workers, and Kirkman Finlay counselled his son that ' we shall have a long and severe pressure and much suffering and heavy losses but we shall see again good steady business '. The day of steady business was nearer that Finlay imagined and though the summer brought some important failures in Scotland and was an ' unpropitious time for Railroads and other speculations of the kind ', partial recovery was not long delayed. Unlike England, Scotland saw a mild form of progress in its economy during these years, especially in Glasgow, where banking, building, shipping and railway enterprises all appeared.[7]

In the same way the iron trade in Scotland followed a different course from that elsewhere. There was a fairly quick recovery from the troubles of the spring and summer of 1837 and then a gradual decline into depression in 1842 and 1843. In common with the English and Welsh trades it suffered considerable fluctuations but they were less violent, though aggravated by labour troubles.

After the commercial crisis of March 1837 the Bairds had such large stocks that they were forced to put four of their seven furnaces out of blast, and by the end of May the price of iron had fallen by 30 - 50 per cent. The ' rather unfavourable ' outlook for trade led to labour troubles which lasted all summer. At Gartsherrie the colliers

[7] The following examples may be given:
Banking: City of Glasgow Bank, 1839; Glasgow Joint Stock Bank, 1840; Glasgow Banking Co., 1843.
Shipping: British and North American Royal Mail Steam Packet Co. (later Cunard Co.), 1839; George Smith and Sons (later Clan Line), 1840.
Railways: Glasgow and Ayr, 1837; Glasgow and Greenock, 1837; Edinburgh and Glasgow, 1838; Wilsontown, Morningside and Coltness, 1841.
Building: among others the Merchants' House, the Western Club, the New Court House, the extension of the harbour at the Broomielaw, and the St. Rollox chimney.

struck in April and stayed out for fifteen weeks; in May they came out at Muirkirk, in June at Calder, and so on all over the West. The Coal Miners' Association, formed in 1835, led the agitation and directed activities chiefly against the ironmasters. The strike failed, however, the miners returning to work on the masters' terms.

The troubles of the summer soon seemed to be over and by September prices were 'high and increasing'. The average for the year of 80s., though much below the 135s. of 1836, was no worse than the average of the early 1830s. With the exception of 1839, prices gradually declined till 1842 and markets became more difficult. Yet at the beginning of 1841, when furnaces were being extinguished in England and Wales, Scotch pig continued in 'fair demand', though some of the more needy makers were forced to reduce their prices by 5 per cent. Even in May, when the manufacturing districts of Scotland were in distress, the iron trade in Scotland was reported to be 'flourishing'. 'Were the stranger to confine his observations in the West country to the mineral districts he would declare that the country was never in a more prosperous condition. It is impossible, by words, to convey anything like a distinct idea of the bustle and activity that is indicated in every quarter where coal and ironstone can be produced.'

Nevertheless, at the end of 1841 the whole of the iron trade of Great Britain decided to reduce production by 25 per cent. for six months beginning on 1st January 1842, the reduction being calculated on the make for the six months ending 30th June 1841. This agreement, it was hoped, would relieve the market of 170,000 tons. It seemed that 'no alternative remained in order to retrieve the trade from the ruinous position in which it has been placed'. For a short period to begin with the Scottish ironmasters, with the exception of Carnbroe and Govan, conformed to a general agreement for the first time. An improvement in prices, probably of a speculative nature, was noted almost at once but it was not maintained until the autumn.[8] Yet, though prices in Scotland did not improve, cost advantages enabled the established producers, at least, to maintain a profitable position: in particular, the export demand increased. As a result, the decision to restrict output was soon forgotten. In England the make was reduced in 1842 below the level of 1839 (the original intention of the restriction), but in Scotland it rose without check from 241,000 tons in 1840 to 250,000 in 1841 and 271,000 in 1842. Thus, though there were difficulties, the Scots never seriously set about curtailing output.

[8] The expiry of the hot-blast patent on 1st October 1842 was sufficient inducement to some of the ironmasters to put their furnaces in blast once again.

Only at New Year 1842, when the ironmasters agreed to the national restriction, did the industry seem to be in a grave situation. This enabled John Wilson of Dundyvan to present a gloomy picture of the iron trade of Scotland at an Anti-Corn Law demonstration on 15th January 1842, when twenty of Scotland's eighty-three furnaces were out of blast. Three of the new works started in 1841 were 'as silent as the grave' and an old one (presumably the unfortunate Wilsontown, which stopped in 1842 and never reopened) was also still. Stocks were heavy and greatly emphasised the importance of a reduction in output.

Certainly in 1842 conditions were becoming increasingly difficult, though in Scotland generally and in some firms in particular there was no great distress. Two new problems, however, faced the industry during the year. First, the increasingly important export demand was affected by the new American tariff laws. Under the Compromise Act of 1833 duties on iron were reduced to 20 per cent. in 1842. This lasted for two months, till 1st September 1842, when a new Act came into force levying high duties—a 'distinctively protective measure' which lasted till 1846. After 1842 even iron rails, on which a drawback had previously been granted, paid duty like any other commodity. This meant that a market on which the Scots trade had been becoming increasingly dependent suddenly became more difficult and the active American iron trade grew under this protection.[9] Secondly, there were further serious labour troubles in the summer and winter of 1842. Wages had been about 4s. per day, but in 1842 the ironstone miners were receiving only 1s. 10d. to 2s. per day, and the colliers 2s. 3d. to 2s. 9½d. At the beginning of August a strike started in the Airdrie and Coatbridge area and gradually spread, largely under Chartist direction.[10] Furnaces were at once thrown out of blast in the Monklands and the revived union was this time successful. By the

[9] 'The high duty on iron in its various forms between 1832 and 1841, and again in 1842-46, impeded importation, retarded for the United States that cheapening of iron which has been one of the most important factors in the march of improvement in this century, and maintained in existence costly charcoal furnaces long after that method had ceased in Great Britain to be in general use.' F. W. Taussig, *The Tariff History of the United States* (New York, 1914), p. 134.

[10] Hamilton MSS (Register House Collection): Sheriff Allison to the Duke of Hamilton 29th August 1842. Cf. also *Aberdeen Journal*, 10th August 1842. The possible extent of the Chartist influence is interesting though difficult to determine. Towards the end of 1842 the Lord-Lieutenant of Glamorganshire wrote to the Lord Advocate: 'I learn from the Chief Constable of Glamorganshire that the intended outbreak is postponed till March in order to give time to the Scottish Chartists to co-operate, and the (turned?) out colliers in Ayrshire have written to the people at Merthyr to ask them to join them in a similar rising.' (Quoted in Sheriff Allison to the Duke of Hamilton 6th December 1842. Hamilton MSS [Register House Collection].) Cf. also Hamilton MSS (Register House Collection): Sheriff Allison to the Duke of Hamilton, 31st August 1842.

end of September the workers were back at Gartsherrie, and though there was sporadic trouble until the end of November, the strike was settled soon afterwards. But the settlement was only temporary and the masters in the Airdrie area, thinking that they could not permanently pay the wage they had agreed to in October, reduced wages slightly at the end of December. This immediately produced a strike in the leading ironworks which threatened to spread to Gartsherrie. Lanarkshire was consequently in a very disturbed and unsettled state at the end of the year, and on 16th January 1843 the leading coalmasters and ironmasters of the neighbourhood asked the Duke of Hamilton to call a County Meeting to consider 'the objections which have hitherto prevented the establishment of an adequate civil force for the protection of life and property in the County'.

The year 1843 was the watershed between recovery and depression. In the late summer Scotch pig touched 32s. per ton, the lowest price it was to reach until the record one of 29s. 3d. in 1886. But at the same time improvements appeared. In August a 'large capitalist' made a 'very extensive' investment in Scotch pig, believing that it would rise in price. When a slight rise did come in September there were 'evident signs of improvement' and orders began to come in freely. Though confidence was slow to return in the early stages, furnaces were gradually put into blast. The demand for railway iron was beginning and, a portent of the future, Robert Napier launched his first iron vessel, the *Vanguard,* in June.

V

The period of gradually increasing depression from March 1837 to the beginning of 1843 was, rather paradoxically, the period of the third and major phase in the expansion of the Scottish iron industry. Table I shows the increase in furnaces between the peak of the boom in 1836 and the bottom of the depression in 1843. The warnings of 1836 and the actual and increasing difficulties of 1837 and the following years did not stop the movement of resources into the industry. If anything, expansion continued with increased vigour. The belief that 'in Lanarkshire, Renfrewshire, and other parts of the country, individuals, by adventures to a limited extent, have realised fortunes'[11] was still too strong to damage confidence. The producers did not revise their expectations at once as a result of the less prosperous conditions; their investment plans remained unaltered and there was consequently a further increase of capacity.

[11] Prospectus of the Glasgow and Ayrshire Iron Co.

First, the established producers considerably expanded their operations. The Bairds, already the most important firm, built two furnaces in 1837, and in 1839 decided to add eight new furnaces to their existing eight. Four of these were in blast by 1840, three more started in 1841, and the last in 1843. Moreover, in 1837 the Bairds purchased the Madeira Court Depository and some adjoining properties in Glasgow for about £10,000, intending to convert them into stores for iron and coal, and offices. The lesser lights also expanded. In 1837 one more furnace appeared at Calderbank; in 1838 there was another at Calderbank, one at Dundyvan, and the Shotts Iron Company started a 'new and excellent' ironworks at Castlehill; in 1839 one furnace more was added to the existing two at Shotts itself; in 1840 two more appeared at Calder and at Calderbank and three at Dundyvan; and another furnace was erected at Dundyvan in 1841.

The most startling increases, particularly characteristic of this period, were among the new producers or at the new works. In 1837 Summerlee was established and by 1842 had six furnaces. Coltness, started in the same year, had six by 1845. In 1838 Alison, Merry and Cuninghame began at Carnbroe and had built six furnaces by 1843. In 1839 Dixon started at Govan meaning to build eight furnaces but by the end of 1843 he had only five and added only one more. The foundation stone of the Blair Ironworks was laid in August 1839 by the local Masonic Lodges with great pomp, and three furnaces were built by December 1843. William Galloway bought the estate of Househill at Paisley for £45,000 in February and had two furnaces by 1843. At the end of the year the Cessnock Works were established near Galston and by 1843 had two furnaces. In the summer of 1840 the Glasgow and Ayrshire Iron Company was floated to take over Muirkirk. In the same year operations began at Glengarnock and three furnaces were soon built; these works were taken over by Merry and Cuninghame in 1842. Langloan, opened in 1841, built three furnaces in the depression years and the Garscube Ironworks two. In 1842 no new works were started but the existing ones still expanded.

In addition prospecting for minerals continued unabated. In 1837 Dixon paid £7,000 for 51 acres at Rutherglen and in 1840 £60,000, cash down, was paid for the ironstone only on an estate in the neighbourhood of Airdrie. By 1840 North Lanarkshire was almost completely taken up and the remaining minerals could be had only at a high price. Robert Brown, factor to the Duke of Hamilton, reported that 'Lord Belhaven had the prospect of letting a portion of his minerals for some thousands pounds a year. The Dalziel family have added

considerably to their income by letting theirs to the ironmasters. Hamilton of Fairholm speaks of letting his adjoining Quarter. Major Cochran and others are putting down pits at Eddlewood and Meikle Earnock.' In Ayrshire the search was even more vigorous and minerals on the Blair and Glasgow estates were let at this time. In 1839 at Dalmellington the proprietor was offered £12,000 per annum for a lease of the minerals, and the Duke of Richmond was examining the possibility of establishing an ironworks in Strathdon. At this point Robert Brown became quite fatalistic about the activities of the ironmasters: ' such is the rapid progress of trade and manufactures in this country, that it is in vain to obstruct them, for they will go *forward.*'

The extent of this investment is difficult to estimate in financial terms because of the great variations in the cost of erecting ironworks. The lowest estimate for one furnace with all its 'appurtenances'—these included workmen's houses—was not under £5,000 and generally nearer £10,000: four furnaces erected at Dundyvan cost £60,000, but there were enough additional ' appurtenances ' to supply another furnace or two. Outside the ironworks proper there was, of course, additional investment required in ironstone and coal mines. At any rate the level of investment in the industry was very high and this at a time when other sectors of the economy were in distress. Moreover, it remained unchanged at a high level from 1837 to 1841, even though the difficulties facing the industry increased.

VI

It is difficult to generalise on the desirability or otherwise of the high level of investment in the Scottish iron trade after 1837. Socially it was undoubtedly desirable as it took place at a time when resources were available for investment because of fairly general unemployment in other industries. In addition, this high level of investment, especially between 1832 and 1842, provided a considerable amount of fixed equipment which was to produce large quantities of Scotch pig very cheaply in the future. From the point of view of the producers the conclusion is by no means so certain. Their interest was to make a profit; but many of them did not find it easy to do so immediately after entering the trade. It is therefore rather surprising that investment plans were not greatly changed until 1842. When the profit opportunities first appeared in 1830, after the technological development of the hot-blast, investment plans were quickly revised upwards. Yet in spite of changing economic circumstances producers did not

appear to scale them downwards until a considerable time had elapsed. From 1836, when the storm signals first appeared, until 1842 the Scottish producers' confidence in the future seems to have remained completely unshaken. Throughout the period of depression investment plans continued unchecked. The expectation of profit engendered by the previous boom greatly outweighed the expectation of loss.

Admittedly, as Table I shows, the incidence of the depression was uneven. Even during the worst of it, in 1843, some firms continued in full operation. But the number of furnaces out of blast, when taken alone, is not always a reliable guide to the condition of the industry. Even in very prosperous times some were out of action for repairs, though this proportion was often very small. On the other hand, in a depression producers were reluctant to put furnaces out of blast because of the expense of blowing them in again. In addition, many of the producers paid fixed rents for their leases of mineral fields and only a small rate for every ton of ore or coal mined. Prime costs, consisting mainly of labour and ore, were low. Consequently output was not readily restricted. Producers put furnaces out of blast only when prices had considerably fallen and conditions were really difficult.

It is probable that even the firms (usually the well-established ones) which remained in full or nearly-full operation did not find the times easy. Gartsherrie itself was not immune from the troubles surrounding it. For several reasons, however, the worst effects were felt by some of the new firms which had entered during the third phase. Some, as at Blair, lacked capital. Secondly, most of them were, naturally, less well sited for access to the necessary minerals, since the older works had already taken up the best fields of blackband ironstone. Most important of all, the new works had never had the benefit of a time of high profits, as in 1836, to enable them to weather the storm. They had scarcely time to become established before they were faced with difficult conditions.

The continuation of a high rate of investment during the period of growing depression certainly worsened the situation for individual producers. Though prices were falling almost continuously till 1843, more furnaces were being erected and output increased during the whole period. If such large numbers had not entered the industry during the years of depression, and thus brought about an increase in production, conditions would have been easier for the ironmasters. As it was, the increased fixed capital not only intensified their difficulties between 1837 and 1843 but also prevented the Scottish trade from benefiting as it might have done from the railway-building boom which began in 1844. Stocks on hand throughout most of that period

were high and the Scotch pig trade remained dull at times when other iron producers and manufacturers were extremely prosperous. While the optimism of the Scottish ironmasters between 1830 and 1843 was beneficial to the nation in that it provided a great deal of cheap pig, it is doubtful if they would have acted as they did if they had passed more sober judgment on their own capital requirements. But the expectations engendered by the technological development and the boom of 1836 were slow to die.

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DOLLAR SHORTAGE AND DISPARITIES IN THE GROWTH OF PRODUCTIVITY

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I. Meaning and causes of 'dollar shortage': monetary policy or structural conditions?
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X. Continuing shortage while real income continually increases cannot be explained by structural difficulties.

The debate about the dollar shortage has been going on for over ten years. The ranks of economists believing that the dollar shortage is *chronic* have been increasing, and so has the list of theories proposed to explain that 'chronic' condition. One of the theories, recently propounded with great conviction, links the persistent dollar gap with *disparities in the growth of productivity* in the main trading countries.

It is to Professor J. R. Hicks and his mastery of theoretical analysis that we owe an exposition clear and lucid enough to permit critical examination.[1] But he is not the originator of the theory. He found it set forth by Professor John H. Williams,[2] who in turn had been antici-

[1] J. R. Hicks, 'An Inaugural Lecture', *Oxford Economic Papers*, Vol. 5 (June 1953), pp. 117-135.

[2] John H. Williams, *Economic Stability in the Modern World* (London, Athlone Press, 1952), republished under the title *Trade not Aid: A Program for World Stability* (Cambridge, Mass.: Harvard University Press, 1954).

pated by Dr. Thomas Balogh.[3] This productivity-growth-disparity theory of the dollar shortage in the versions by Balogh, Williams and Hicks will be discussed in this article.

I

A brief introductory statement of the general issues in the debate about the dollar gap may provide the necessary background for the discussion. Sir Dennis Robertson has neatly defined 'dollar shortage' as

> 'a persistent tendency on the part of the populations of the world outside North America to spend more in that region than the sum of what they are earning in that region and what the inhabitants of that region are disposed to lend to them or invest in their borders under the play of ordinary economic motive. The symptoms of the disease are a continuous pressure on the monetary reserves of the extra-North American countries which is kept at bay partly by a series of special loans and gifts made to them by the North American countries, partly by special restrictions, imposed on themselves by themselves, prohibiting or limiting the purchase of certain classes of North American goods.'[4]

A persistent tendency to overspend seems to be chiefly a matter of the will; in individuals such tendencies are treated by moral precept, friendly advice, parental discipline, threat of divorce, legal guardianship, denial of credit. For whole nations overspending is, one should think, a matter of economic policy, and policy is not unalterable. People cannot spend money that they do not have, nor buy on credit that they have not got; hence monetary policy can take care of their propensities to overspend. Governments, of course, can print their own money (except where gold coins are the only medium of exchange), or create the credit they want, and thus their propensities to overspend have to be restrained by what is called a 'sound' fiscal policy.

Along such lines of reasoning, one school of thought on the dollar shortage holds that it is nothing but the result of 'lax' *monetary and fiscal policies*, and that it is 'chronic' only as long as these

[3] Thomas Balogh, 'The U.S. and the World Economy', *Bulletin of the Oxford Institute of Statistics*, Vol. 8 (1946); *idem*, 'The United States and International Economic Equilibrium', in *Foreign Economic Policy for the United States*, ed. Seymour E. Harris (Cambridge, Mass.: Harvard University Press, 1948), pp. 446-480; *idem*, *The Dollar Crisis: Causes and Cure* (Oxford: Blackwell, 1950).

[4] Sir Dennis H. Robertson, *Britain in the World Economy* (London: Allen and Unwin, 1954), pp. 53-54.

policies are continued; the tendency of a nation to overspend can persist only because its leaders, or 'popular will', resist a change in economic policies, a change which might have unpleasant, though by no means catastrophic, consequences.

For the opposite school of thought the dollar shortage is due to *structural conditions;* some members of this school hold that the dollar shortage cannot be treated by monetary and fiscal policies; others concede that it can be cured by the adoption of 'classical' economic policies, but only at the expense of mass unemployment, starvation, revolution.[5]

Between these extreme points of view—one claiming that the dollar shortage can be cured by some monetary and fiscal discipline without dire consequences or indeed with substantial long-run benefits; the other claiming that the dollar shortage is basically due to unalterable structural conditions and that its 'cure' through orthodox treatment would have catastrophic results—between these extreme points of view there are several shades of opinion about the relative social costs and benefits of restraining the tendency to overspend either by monetary and fiscal or by direct controls. The position of economists on these matters may be ultimately a question of social and political philosophy: of their attitudes toward economic libertarianism, interventionism, socialism, equalitarianism; but it will also depend on some issues of economic theory, especially on the acceptance or rejection of the applicability of certain models of 'structural' economic conditions, conditions which supposedly obstruct, or make intolerable, the traditional mechanism of adjustment of the balance of payments and are not alterable by monetary measures.

One of these issues of economic theory is whether disparities in the rates of increase of productivity in the dollar world and the

[5] Cf. Balogh, *The Dollar Crisis*, pp. 136-137, and 198:

'If we disregard relative standards of life, and the possibility, indeed probability, that mass unemployment and starvation may well ensue if conscious measures are not taken to promote a more even international distribution of wealth and income, "equilibrium" in the sense of a balance of payments is perfectly easy to produce with or without devaluation, with or without "controls". . . . Provided monetary demand is appropriately reduced by raising the rate of interest sufficiently and reducing Government expenditure by cutting social services and State-initiated investment, causing mass unemployment and an abrupt fall in the standard of life, external "equilibrium" without controls could certainly be re-established.'

'It would be a mistake to suppose . . . that the "classical" methods of "curing" the crisis will not "work". They will.'

'A few more years of this cure', and it will be impossible to 'retain the loyalty of the majority of the people for the Western social system.'

non-dollar world are apt to cause pressures, persistent or ever-recurring, which would take the form of a dollar shortage not manageable by monetary measures or institutions. This is the issue before us.

II

The theory was advanced in 1946 by Dr. Balogh:

> ' The rise of the United States to a position unparalleled since the Roman Empire has placed the world in a dilemma unless indeed, as we shall argue below, conscious measures are taken to restore equilibrium. We either have to envisage prodigious investment activity in the United States which *increases the competitive power of that country faster than productivity rises elsewhere and thereby leads to periodic pressure abroad and probable breakdowns,* or continued depression which makes nonsense of the classical mechanism of adjustment towards a " creditor position ". The only escape to be found from this dilemma would be that United States savings be used for foreign investment . . . or that United States business activity be maintained by social reform or " non-productive " Government expenditures. But even in these cases—given the strong initial superiority of the United States and the aggressiveness of its managerial leadership—it is likely that *technical progress will be faster in the United States than in other countries* adhering to the " classical " rules of the game.'[6]

At other places Balogh refers, not to differential rates of progress, but rather to discrepancies in competitive power achieved. For example:

> ' Even after the fundamental disequilibrium in the world's balance of payments arising from the war and the slow recovery of the old world has been overcome the disequilibrium between the United States and the rest of the world is likely to persist. *This equilibrium is due to the discrepancy in order of magnitude of the economic power of the United States and any other single country,* except perhaps the U.S.S.R. in the long run.'[7]

The difference between the effects of growth as an ongoing process and the effects of power achieved by past growth may be significant,

[6] Thomas Balogh, ' The U.S. and the World Economy ', *loc. cit.*, p. 321; also, literally reproduced, in ' The United States and International Economic Equilibrium ', *loc. cit.*, pp. 467-468. Emphasis partly supplied.

[7] Thomas Balogh, ' The United States and International Economic Equilibrium ', *loc. cit.*, p. 476. Emphasis supplied.

especially since productivity in a smaller and less powerful nation may conceivably increase faster than in a nation of vastly superior 'economic power'. Balogh did not make it clear which of the two disparities he had in mind, or whether both were supposed to have the same effects. Nor did he explain why either should have the effect he claimed for it. He apparently thought that the asserted causal relationships between growth disparities or power disparities and dollar shortage were 'obvious' and would be understood without the aid of theoretical models demonstrating possible connections between assumed and inferred phenomena.

III

The missing clarification and explanatory support for the growth-disparity theory was provided by one of its sharpest critics. In 1948 Professor Gottfried Haberler took a closer look at the asserted relationship between disparate changes in productivity and the dollar shortage, and he asked himself what the connections could possibly be. He came to the conclusion that

> 'it is possible that country B is hurt by progress in A. If, say, synthetic nitrate and rubber are developed, Chile and British Malaya *may* be permanently injured. But it is, of course, just as well possible that technological progress in A is such that it benefits B. This will be the case if progress takes place predominantly in A's export industries rather than in industries competing with B's exports, or if B can find some other lucrative exports. Obviously all sorts of things may happen and reference to the possibility or probability that progress in the United States will be faster than elsewhere is entirely irrelevant for judging the final outcome (the nature of the new equilibrium). Unfortunately, nobody can tell where future progress is likely to be concentrated, and even if we had a hint that it will be of a nature unfavourable for B it would be hard for country B to do anything about it. On the other hand, it would be easy to cite examples where in the past dire predictions to the effect, say, that the industrial countries as a whole would be placed in a difficult position by technological progress in the industrially backward countries have proved to be entirely wrong. That may be conceivably different in the future, but there is no evidence that Dr. Balogh had such long-run changes in the comparative cost situation to the detriment of some particular countries in mind when he expressed fears of the growing American superior-

ity. In fact, he does not betray any awareness of the real issues involved.'[8]

Haberler thus clearly separated the development of substitutes for imported goods from the differential rate of development in general. Balogh, however, did not take the hint. In his book on *The Dollar Crisis: Causes and Cure,* published in 1950, he did not make any use of, or reference to, Haberler's sensible suggestion. He did reply to Haberler, but only to take a whack at him for adhering to the theory of comparative advantage and neglecting the ' unequal dynamic progress ' and ' the growing dominance and faster progress of the United States '.[9]

Balogh again makes no distinctions between power, size, wealth, rapid development, industrial supremacy, monopoly position, mass production, faster increase in productivity. For example:

" . . . the emergence of the United States as an *overwhelmingly dominant power* . . . reduces the chances of the restoration of a smoothly-working national economy ' (p. 5).

' . . . the discrepancy between the *size and wealth* of the United States and any other single country has grown so enormously that producers in that country, *ceteris paribus,* acquired a considerable advantage ' (p. 6).

' The . . . problem results from the fact that *rapid development* in the U.S. has rendered most industries in poorer and smaller countries obsolete. Insufficient attention has as yet been paid to the implications for the international competitive power of a country of its having achieved *industrial supremacy, e.g.,* of the fact that it initiates new processes of production, creates new goods in which it obtains a *monopoly position* for at least some years. Moreover, the United States based on a vast and well-protected domestic market, acquired advantages in industries in which *mass-productive methods* can be applied, *i.e.,* a growing number of the highest productivity industries ' (p. 8).

' . . . even if there were no deflation in the U.S., other countries might easily find their currencies " over-valued " as *productivity*

[8] Gottfried Haberler, ' Dollar Shortage? ' in *Foreign Economic Policy for the United States,* ed. Seymour E. Harris (Cambridge, Mass.: Harvard University Press, 1948), pp. 438-39. I took the liberty to reverse, in the above quotation, the notations A and B, first because the mental association of A with America as the faster-growing nation, and B with Britain, may be an aid to the reader, and secondly because it will avoid the necessity of ' unlearning ' the notations when we come later to review the analysis of the relations between fast-growing A and stagnant B in Hicks' statement.

[9] Thomas Balogh, *The Dollar Crisis: Causes and Cure,* pp. 230-31. This reply to Haberler is contained in an appendix, which reproduces Balogh's article ' The Concept of a Dollar Shortage ', *The Manchester School,* Vol. XVII (May 1949), pp. 186-201.

would rise faster than elsewhere and wages and demand might not rise quickly enough. In any case, it is not likely that her imports would increase sufficiently with rising income, or that foreign countries will not find themselves eliminated from the most productive lines of production; thus the difference between rich and poor in the world, instead of being eliminated or diminished, would increase. If, on the other hand, deflation would supervene in the U.S., the impact on Western Europe would be even more disastrous. Thus the dollar "shortage" might well prove to be a recurrent phenomenon involving a continuous deterioration of (at least the relative) standard of life of countries other than the U.S.' (pp. 8-9).

"... it is possible to imagine so large a *superiority in U.S. technical progress* over Europe as to turn the terms of trade sufficiently against the latter to cause an actual *fall* in the standard of life. In any case, most of Europe's efforts to raise herself might be perpetually stultified by this pressure on the terms of trade even if her standard of life did not actually fall' (p. 138).[10]

It is not clear whether Balogh meant this variety of concepts to constitute a series of variations of a single theme, each of them standing for one and the same causal element in a theory of the dollar shortage, or whether he meant to propose several theories, each linking a different cause with the same effect. I incline to the former interpretation of Balogh's intentions, though I do not see how they can be carried out. But I grant that there is no need to find a single cause, and I grant further that all of the different causes listed by Balogh could conceivably operate simultaneously to achieve the result —although we do not yet have the models to show how.

On the notion of the disparities in wealth, income, power, market position and continuing growth of productivity rests Balogh's conviction that the dollar shortage is chronic and should be countered by governmental planning to secure greater income equality, domestically through price and allocation controls, and internationally through discriminatory quantitative trade and exchange restrictions.

IV

When Professor John H. Williams gave the Stamp Memorial Lecture in London in 1952 he gave his stamp of approval to Balogh's ideas on the causes of the persistent dollar shortage. He did not mention Balogh by name and he did not endorse his policy recom-

[10] T. Balogh, *The Dollar Crisis*. Emphasis supplied.

mendations or warnings. For example, he declared himself 'entirely on the side of a vigorous restrictive policy for countries in external deficit', with the 'emphasis on general monetary and fiscal controls' rather than 'direct internal controls'. For, 'with an intractable condition of deficient supply and excessive demand, there has been little danger of serious unemployment'.[11]

But as 'explanation' of the dollar shortage Williams presented Balogh's thesis with almost all its variations; thus he stated

> 'that there is a basic tendency toward world imbalance which, though hastened and intensified by the wars, has its roots in the *growing predominance* of the American economy; and that the succession of shorter-run disturbances is symptomatic of this deeper-seated and longer-run disequilibrating *process of change*. One important aspect of the American economy, aside from its *accelerating productivity*, is its *preponderant size* in economic terms' (p. 15).
>
> 'The *great size* of the United States relative to most other Western countries, its *large home market*, its *diversified resources*, its *comparative self-sufficiency*, its *high productivity* and *rapid technological progress* have introduced a tendency away from, rather than toward, equilibrium in world trade' (p. 12).
>
> 'What we need is some kind of fundamental reshaping of the world that will overcome the disequilibrating effects of American *predominance*' (p. 21).

Only in two passages did Williams place the entire emphasis on productivity-growth disparities:

> "One of the most difficult aspects of the problem of change over time is that *progress in comparative productivities* must be regarded as a race' (p. 13).
>
> '. . . over time, *if there are divergent rates of growth of productivity, the trade will be progressively less favorable to the countries less rapidly advancing in productivity*. Thus there develops a question as to how trade can be equilibrated at a tolerable level of real income' (p. 14).[12]

Like Balogh, Williams apparently thought that this was self-evident. For he made no attempt to show why the divergence in productivity growth should cause trouble. He paid no attention to Haberler's suggestion that the development of substitutes for imports may be the crux of the matter, and he left the 'theory' where Balogh had left it, as a contention without a reason.

[11] Williams, *op. cit.*, p. 18.
[12] Williams, *op. cit.* Emphasis supplied.

V

The wanting analytical elaboration of the theory was eventually furnished by Professor Hicks in his 'Inaugural Lecture' in 1953. Hicks took his text from Williams, not from Balogh. From the variety of disparities—income, wealth, power, etc.—he singled out one: the disparity in the rate of development. And, like Haberler, he recognised that the emphasis had to be placed on import-competing developments, not on development as such. But he showed in a closely reasoned argument why this had to be so.

In good classical style, Hicks distinguishes between barter effects and monetary effects. Barter effects are those which persist whatever the course of money incomes. Monetary effects are those which arise out of difficulties in the adjustment of money incomes. If a difficulty is purely monetary, people ought to find a means of doing something about it; but nothing can be done about a 'real' difficulty, one inherent in a barter effect.[13]

Hicks considers two countries, A and B, which are trading together. To see what happens when productivity in A is increasing more rapidly than productivity in B, he makes the simplifying assumption that productivity is increasing only in A but remains constant in B. He analyses three cases: *first,* where productivity in A is increasing uniformly, at the same rate in *all industries; second,* where productivity in A increases only in *export industries; third,* where productivity in A increases only in *industries making substitutes for imported goods.* (After Hicks is through with these three cases, including findings and applications, he adds, in a much less systematic and less analytic fashion, a fourth case, where productivity in A is increasing in industries producing export goods which compete in third markets with exports from B.)

The first case has pleasant barter effects but possibly unpleasant monetary effects for B. That the increased output of A will benefit B is almost certain because—save for very exceptional circumstances—A's demand for B's products will increase with A's income,[14] which

[13] J. R. Hicks, *op. cit.,* p. 123.

[14] 'Though it is possible to construct weird cases in which the conclusion would not follow, we can surely be confident that in practice a rise in A-incomes, with all prices constant, would cause A's demand for B-exports to *rise.*' Hicks, *op. cit.,* p. 124. The condition that all prices are constant is satisfied, in Hicks' argument, by raising money incomes in A 'to the full extent of the rise in productivity'. The 'weird cases', in which demand for B-exports would fail to rise, presumably include the extreme assumption that many B-exports are inferior goods; they may also include the assumption that the income elasticity of demand is very low for B-exports and for import-competing A-products, but very high for goods which A had been exporting.

will improve B's terms of trade. The monetary difficulties are most readily understood in terms of the classical specie-flow mechanism: with prices in A lowered, there will be a gold flow from B to A until prices and incomes are sufficiently raised in A and reduced in B. This good old model explains quite well how B gets some of A's supply of goods and how A gets some of B's supply of money. But nowadays all the stress is put on the deflation in B, which is feared like the devil. This purely monetary difficulty can be avoided if money income in A is sufficiently increased:

> ' There will . . . be some *appropriate* rate of rise in A-incomes (less, but perhaps not much less, than the rate of increase in productivity) which will keep trade between the two countries in balance, even though the level of B-incomes remains in money terms completely unchanged.'[15]

While the first case holds with the chance of monetary difficulties a certainty of real benefits for the stagnant country, the second case is even better for that country. When the improvements are concentrated on A's export industries, and B can thus get more imports for the same money, no monetary troubles and only a real boon for B may result from this kind of development.

It is the third case which frightens Hicks, the case where the improvements are concentrated on the A-industries which compete most closely with imports from B. He calls it the case of ' import-biased improvements ', resulting, because of the reduced demand for B's exports, in both monetary difficulties and a real loss for B. The monetary difficulties can possibly be coped with, but the fall in real income in B is inevitable:

> " Whatever are the monetary arrangements, whatever the course of money incomes, an improvement in A-productivity that is *import-biased* must make B worse off.'[16]

VI

What has been demonstrated with these three hypothetical cases? That the increase in productivity in A may be good, excellent, or bad for B, depending on whether the improvements in A are, by and large, ' uniform ', ' export-biased ', or ' import-biased '. But Hicks is now

[15] Hicks, *op. cit.*, p. 126.
[16] Hicks, *ibid.*, p. 128.

ready for his coup: he 'assumes' that most of the progress of productivity in this century—in contrast to the nineteenth—has been of the import-biased variety; that this progress has been fastest in North America; and that this has caused a continuing dollar shortage in Britain.[17]

Hicks grants that the world picture has contained other things too: some troubles with war debts in the 1920s, with world depression and capital flight before Hitler in the 1930s, with war, war damage, and cold war in the 1940s. (The overvaluation of the pound sterling in the 1920s and the repressed and open inflations of the 1940s could also have been mentioned in this connection.) But Hicks looks for a single cause:

> 'A special explanation of the difficulties which were being experienced by European countries in settling their dollar debt could always be found. But the continuance of the same consequence, the same dollar shortage, as the result of these various "causes", has by now become very striking. That there is some general influence underlying these particular manifestations *can now no longer be doubted. It is hard to see that there is any other general force which would account for what has been happening than the disparity in growth in productivity which we have been discussing.*'[18]

This complete acceptance of a general hypothesis as the explanation of concrete historical situations without presentation of evidence and without consideration of alternative hypotheses is surprising. It is even more surprising when we find that the general hypothesis does not really fit the situations in question, at least not the case of Britain during the last fifty years, to which it is supposed to apply:

1. The thesis of the barter effects of the import-competing improvements implies that *country B suffers a drastic deterioration of its terms of trade.* Indeed, this adverse movement in the barter terms is the quintessence of the hypothesis. Yet, the terms of trade, as Hicks fully realises, turned in Britain's favour during the

[17] There are difficulties in applying the findings of the analysis of the model countries A and B to countries of the real world. The real-world counterpart of B is sometimes the whole non-dollar world, sometimes Western Europe, sometimes Britain. This goes for Hicks' argument no less than for Williams' and Balogh's.

[18] Hicks, *op. cit.*, p. 131. Emphasis supplied.

1920s and remained favourable for most of the 1930s. Hence, the theory cannot explain any ' dollar shortage ' in Britain in that period.[19]

2. The thesis of the monetary effects of the import-competing improvements implies that prices fall because *money incomes in country A do not rise sufficiently with the increase in productivity.* Yet, money incomes in the United States during the 1940s and the early 1950s increased faster than productivity. Hence, as Hicks would surely admit, the monetary effects of the U.S. increase in productivity during and after the war cannot have been responsible for any ' dollar shortage ' in Britain in that period.[20]

3. The thesis of the barter effects of the import-competing improvements implies that *per capita real income in country B suffers a net decrease.* Yet real income per capita in Britain, according to published statistics, increased during most of the time, including the period after the war in the late 1940s and the early 1950s. Hence the theory cannot explain Britain's ' dollar shortage ' during the period.

It is also quite likely that some other facts in the situation can be found to be inconsistent with the theory under examination. Perhaps there has not even been that disparity in the growth of productivity which is the very hub of the theory. Or, perhaps there has been no preponderance of improvements in the import-competing industries in the United States.[21] But instead of searching for evidence on these matters, I propose to elaborate now the third of the points mentioned, because the fact—that the real income of Britain has been increasing—is not contested and its inconsistency with the theory in question deserves emphasis and calls for further explanation.

[19] Hicks takes account of Britain's favourable terms of trade due to low prices of agricultural imports ' throughout the twenties and thirties ', but he holds that the advantage which ' the British consumer derived ' from them ' masked the weakening of his own economic position '. *Op. cit.*, p. 135. Perhaps so; it is quite possible that what happened to some of Britain's exports in the thirties was of lasting seriousness and its effects were only temporarily overcompensated by the cheap agricultural imports of the period. But the point is that Britain did not in fact suffer a deterioration of the terms of trade during the twenties and thirties and, therefore, that any ' dollar shortage ' in Britain during that time cannot be explained by the theory under examination. Hicks, however, had set out to look for a single cause of ' the continuance of the same consequence, the same dollar shortage '—including the twenties and the thirties. (Incidentally, the difficulty of applying the two-country model should again be called to attention. If B is Britain, and A is America, the rest of the world is most conspicuous by its absence. As a way out, one might expand A to include the rest of the world, but then the hypothesis of a faster growth of productivity in A would surely be out of place.)

[20] This is brought out only to make sure that any *monetary* influences on the dollar situation in Britain cannot be traced to U.S. developments.

[21] I have been assured by some who are more familiar than I am with the available data that the balance of evidence on these points is against the applicability of the theory in question.

VII

Why should we place such heavy emphasis on a net decrease in per capita real income? Why should a theory of international equilibrium assume a crucial difference between a situation in which real income falls a little and a situation where it stays constant or increases?

Drastic reductions of real income have, at one time or other, happened to millions of families and thousands of occupations in many nations. Why should it be a calamity if the average real income of a nation decreases slightly, of a nation whose plane of living is safely above the minimum of physical subsistence? The answer which most of us, including Hicks, would give to this question is that our present institutions—collective bargaining between strong trade unions and large corporations, *plus* cost-of-living wage adjustments, *plus* full-employment policy, *plus* the elasticity of the credit supply that must go with it—are arranged not to permit reductions in real wages. If these institutions are effective, the chain of events following a downward pressure on the per capita real income of a nation may indeed be calamitous. No government will under these circumstances abstain from a policy of national overspending.[22]

Let us assume, then, that real wages are not allowed to fall; that trade unions will not accept reduced money wages and will insist on matching every increase in consumer prices with a like increase in money wage rates. Under such circumstances there will be serious trouble when the nation suffers a net loss in real income per capita. How should a nation cope with an 'unavoidable' reduction in per capita real income if it is 'unalterably committed', by its institutions, to avoid a reduction in real wages? No such trouble arises when per capita real income is maintained or increasing. Hence, if the mentioned institutions are taken for granted, rather than as a 'policy

[22] Hicks, discussing 'why the devaluation of 1949 was a failure', states that 'when the sterling prices of imported commodities began to rise in order to enforce a real sacrifice, wages chased after the rising prices, and the rise in wages made the devaluation largely ineffective. . . . Along that road there is no way out' (pp. 133-34). He adds in a footnote: 'In a world of full employment and cost-of-living inflation, the above is the strongest objection to the devaluation "remedy" . . .' (Incidentally, I doubt that Hicks' dim view of the effects of the 1949 devaluation is justified. True, money wages increased in Britain by 24 per cent. between 1950 and 1953. But in the same time they increased in the United States by 21 per cent. Hence, most of the devaluation effect on comparative wage levels has remained.)

variable',[23] then the dichotomy in the theoretical model between a *net loss* in real income and merely a *retarded increase* in real income is justified.

If this assumption is accepted, the Hicks model, making the increase in productivity positive in country A and zero in B, is no longer applicable to situations in which productivity also increases in B, though at a slower rate. To be sure, import-competing improvements in A may still turn the terms of trade against B, but these barter effects need not nullify the effects of increased productivity in B. The net result may be an unchanged or increased real income in B, compatible with a system in which money wage rates must always be increased to compensate workers in full for any increases in consumer prices. Indeed, if productivity in B progresses sufficiently to leave the nation with an increased real income despite less favourable terms of trade, money wages in B may rise relative to prices without causing trade or payments difficulties, provided money incomes in A have moved up sufficiently to prevent a deflationary pressure on B.

While Hicks was quite correct in stating that his simplifying assumption facilitated the exposition, he was wrong in thinking that

> " it will . . . make little difference to the essence of the argument . . . if we neglect the expansion of productivity in B, and simply assume that productivity in A is increasing while that in B remains constant ."[24]

Of course, the damper which the barter effects of the import-substitutions in A puts on the increase in real income in B must also be a damper on trade-union ambitions in B. If money wage rates in B are pushed up to the full extent of the productivity increase in B, payments difficulties may ensue. This follows from the fact that real incomes in B cannot increase to the full extent of the increase in productivity because some part of it will be offset by less favourable terms of trade. But payments difficulties which arise when money wages are raised faster than real income increases are fully explained by the old-fashioned ' inflation theory '; it is highly confusing to attribute the difficulties to ' structural developments ' or ' structural conditions ' and, in particular, to the faster rate or special type of technological advance in the dollar area.

If, in the absence of *any* increase in productivity *anywhere*, money incomes per capita were increased in B, but increased less or

[23] That the ' impossibility ' of real wage reductions need not in fact be taken for granted is demonstrated by the actual reductions that have occurred in several countries. A recent example is the Netherlands, where the trade unions a few years ago agreed to accept a 5 per cent. reduction in real wage rates. But perhaps these are the exceptions which confirm the rule.

[24] Hicks, *ibid.*, pp. 123-24.

not at all in the dollar country A, every economist would expect a dollar shortage to arise in B, and he would blame it on the increase in money incomes—on 'inflation'. If, with increases in productivity here and there, money incomes per capita were increased in B beyond the increase in real income per capita, while the ratio of money income to real income in A increased less or not at all, the same dollar shortage would arise in B. Why in this case an economist should wish to blame some differential rates of increase in productivity for causing the dollar shortage is difficult to understand. These differential growth rates would be *neither necessary nor sufficient conditions* of the dollar shortage under the circumstances; to attribute causal significance to them is contrary to the rules of reasoning.

VIII

I have attempted to show (and I hope I have succeeded) that the theory of dollar shortage due to disparities in the growth of productivity does not apply to Britain 'in the age in which we live'.[25] In this section I shall attempt to show that—apart from the question of application—the theory is badly formulated in that it singles out an irrelevant factor and plays down the essential one.

Hicks correctly states that it is the import-biased increase in productivity, and not just any increase in productivity, that has unfavourable barter effects on the country whose exports are adversely affected. Nevertheless, he goes on talking about differential *rates* of economic progress. Yet, the *rates* of progress have little to do with his theory.

If, for example, A and B have the same rate of increase in productivity, but the increase is concentrated on A's import-competing industries and on B's export industries, B will probably suffer from both the monetary and barter effects. The terms of trade will move against B (because the elasticity of A's demand for B's exports is likely to be less than unity) even if B could continue to compete with the substitutes produced in A; but, more likely, unless the cost of transporting B-products to A, and of selling, handling and distributing them in A, are reduced along with their production cost in B, B will lose the competitive advantage in some of its exports.

On the other hand, if the rate of improvement is twice as large in A as in B, but concentrated on A's export industries, while it is fairly uniformly distributed among all of B's industries, we should expect that B, despite the slower rate of advance, will benefit from

[25] Hicks, *ibid.*, p. 130.

the changes in productivity. Likewise, the rate of advance may be faster in B than in A, and the effects unfavourable to B. This would be so if the improvements in B were all in export products with very inelastic foreign demand, while A's improvements were partly in substitutes for imports and partly in new products for which an eager demand develops in B.

All this, surely, is clearly seen by Hicks. Indeed, if *we* can see it so readily, it is thanks to his useful models and the lucidity with which he has demonstrated them. Yet, we must conclude that it was an error to emphasise the rates of increase in productivity in formulating the hypothesis. What matters in this connection is not a disparity between *rates* of growth, but the *bias* or *incidence* of particular developments.

IX

As productivity increases at different rates in different industries, and as new products and industries emerge, the comparative advantages which countries have in the production of various goods are being altered and reshuffled all the time. In the course of this process the scope of international division of labour sometimes widens and sometimes narrows. If a country improves its capacity to make products in which it previously has had a comparative disadvantage, the composition of international trade may change, the total gains from trade may become smaller, and the volume of trade may shrink. The adjustments to the new productive opportunities may also imply a redistribution of the gains from trade—to the serious disadvantage of some countries—and may force countries to incur considerable costs of adaptation.[26]

If such changes in the array of comparative advantages should come in quick succession, one country always initiating the change, starting or increasing a production which previously had been too costly, and the other country always adjusting itself to the change, closing down or reducing a production in which it previously has had

[26] While the disappearance of a comparative disadvantage must needs imply that this (lucky) country loses a comparative advantage at the same time, and while the corresponding loss of a comparative advantage in the other country must needs imply that this (unfortunate) country is getting rid of a comparative disadvantage—this being a matter of sheer logic—the 'lucky' country will as a rule benefit from the change, and the other country will suffer an injury. The reallocation of resources which in the one country will be 'promising investments' under the lure of profits, will in the other country be 'costly reconversions' under the pressure of losses and adverse terms of trade.

comparative advantage, the chain of losses may be exceedingly tough on the second country. And there is, of course, a good chance that a rich and strong country, with plenty of capital to invest in research and development and innovation, may come up with a string of new ventures in products that compete with the export industries of a less well-heeled and less dynamic country. It is in this sense that the faster rate of increase in productivity in the richer and more enterprising country may, if the improvements happen to be competing with the exports of a weaker country, impose on the latter a heavy burden of costly and painful adjustments.

This was recognised and correctly formulated by Sir Dennis Robertson:

> 'What is to happen if country A is not only better endowed than country B, but if the disparity of endowment between them is continually *increasing* through the cumulative mutual interaction of capital accumulation and technological progress? It is true that at any given moment there will still be *some* distribution of function between the two countries which, if it could be instantaneously obtained, would be in the best interests of both. But the task of attaining it, and then of abandoning it almost immediately for a new one, may surpass the human capacity for adjustment in what is, *ex hypothesi*, the weaker country. Better for it, so the argument runs, to be less tightly tied in the bonds of international trade, and to make what progress it can at its own pace.'[27]

The argument of the trade restrictionists is, among other things, that it is better to hold down the volume of trade because to keep it up would be too costly in terms of continuous readjustments; the argument of the trade liberalizers is that it is better to let the volume of trade be as high as the current state of comparative advantage will permit. Which of these arguments is sound cannot be decided with assurance without more knowledge about the type of technological improvements forthcoming in the countries in question. But I see no evidence supporting the notion that the improvements in the United States have been and will be breathtakingly fast compared with Britain and consistently of the kind damaging to Britain's exports.

But the judgment about the greater wisdom of freer or more restricted trade is one thing. It is another thing to evaluate the implications for the problem of the dollar shortage. For, surely, the recognition of the costs and pains suffered by a people repeatedly forced to adjust itself to changes in production and trade initiated by its richer and fast-

[27] Sir Dennis H. Robertson, *Britain in the World Economy*, p. 58.

moving trading partner is not yet an explanation of dollar shortage. These costs and pains suffered by the people in the 'slower' country do not *per se* explain why they have to spend more than they can earn or raise in the ordinary course of their business.

X

This brings us back to the theme on which we started: whether dollar shortage should be regarded as a result of economic policy or as a result of structural conditions.

In a way, this question is not much different from the trivial quarrel whether a person who continually gets into financial jams does so because he is inclined to spend too much or because he earns too little. If a man has had bad luck—say, he had an accident and spent much time and money in the hospital—it would be rather cruel to explain his financial difficulties by the fact, however incontrovertible, that he was spending too much and was living beyond his means. If a man loses his job and has to change his occupation several times with substantial reductions in income, one may for a while explain his financial difficulties by his sad circumstances, but eventually one will frankly mention his failure to adjust his budget to his earnings. But if a man earns more every year and yet cannot extricate himself from his financial difficulties, one may without impropriety refuse to accept his hard-luck stories, no matter how true it is that his income is always less than it might be if it were not for this or that adverse circumstance. If his income increases slowly but surely, the obstacles which prevent him from earning much more than he does should not be presented as explanation of his being continually 'broke'. These obstacles are surely regrettable; they may be removable or unavoidable; they may compel him to adopt this policy or that; but they should not be given as the 'cause' of his being short of funds.

I hope I will not be accused of the fallacy of thoughtlessly applying to societies what is true of individuals. I believe that in this instance the analogy of the individual short of dollars does apply to entire nations short of dollars. If a nation has a dollar shortage while its plane of living is rising, the shortage should not be explained as the consequence of structural obstacles to a faster increase in national income; it is satisfactorily explained by the economic policies adopted.

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EARNINGS IN BRITISH REGIONS IN 1948

UNTIL a few years ago, information on regional variation in earnings within Great Britain was almost entirely lacking, but this important deficiency in British statistics is now on the point of being remedied. Some of the recent Inland Revenue Reports give data on Schedule D and E income classified by region, and although their interpretation requires some care, they provide much valuable information. In addition, the 1948 Census of Production reports, unlike their predecessors, contain regional data on wages and salaries for a large number of trades.

A third potential source of information on regional earnings is provided by the Ministry of Labour Earnings and Hours of Work Enquiry, though, unfortunately, the Ministry of Labour has not so far seen fit to publish any results on a regional basis. Miss Phyllis Deane was, however, permitted to use regional results of the Earnings Enquiry of October 1949 to obtain estimates of regional incomes. Some of these estimates, which, in addition to the Ministry of Labour statistics, were based on the published sources mentioned above, have been set out by her in a recent article.[1]

Since then, summaries have been published of the Census of Production reports for the years 1948 and 1949, providing, among other things, information on earnings in each standard region for all manufacturing establishments covered by the Census (i.e. employing more than ten workers on the average). Table I reproduces the figures for 1948, converted into averages.

According to the first column of figures given, average earnings in manufacturing are highest in London and in the South of England, followed by Wales; the Midlands and the East and North of England also have earnings above the national average. Earnings are below the average for Great Britain in the South West, even more so in the East and West Ridings, the North Midlands and the North West of England, while Scotland has an earnings level below that of any region of England and Wales.

Of course, the economic meaning of these average earnings figures is very limited. What we are chiefly interested in is either the regional income in relation to the total population of the region, indicating

[1] Phyllis Deane, 'Regional Variations in United Kingdom Incomes from Employment, 1948', *Journal of the Royal Statistical Society*, Series A, Vol. 116, 1953, pp. 123-39.

the level of prosperity and purchasing power, or the regional variations in earnings for comparable groups of workers. In dealing with the former aspect of the problem, allowance has to be made for the considerable regional variations in the utilisation of labour, particularly that of women. In this paper the main attention is devoted to the second aspect of the problem. As a first step in dealing with this, average earnings are divided up into those of operatives and other workers, or, broadly speaking, into wages and salaries. This is done in the second and third columns of figures in Table I.

TABLE I

AVERAGE REMUNERATION OF EMPLOYEES IN ALL LARGER MANUFACTURING ESTABLISHMENTS IN EACH REGION OF GREAT BRITAIN IN 1948

Region	All Employees	Operatives ('Wages')	Non-operatives ('Salaries')
	£	£	£
North	315	299	406
East and West Ridings	296	269	463
North Midland	295	270	434
East	317	290	426
London and South East	339	303	477
South	338	308	467
South West	307	280	429
Midland	321	300	429
North West	295	270	440
Wales	328	313	419
Scotland	291	271	407
Great Britain	312	286	444

The ranking of the regions by average wage differs considerably from that by average salary. The average wage is, surprisingly enough, highest in Wales, followed by the South, London and the South East, and the North of England, while the East and West Ridings, the North Midlands and the North West of England, as well as Scotland, show relatively low wage levels. As regards salaries, London and the South East, the South and the Ridings are outstanding in having a

high average, Scotland and the North of England in having a low average.

But these averages are, of course, influenced by the industrial pattern of the region, that is to say, by the extent to which high-earnings and low-earnings industries—particularly industries employing mainly men or mainly women—predominate. This applies rather more to wages than to salaries, in the case of which another factor operates: the proportion of relatively highly-paid head office staff among the salary-earners affects the average. It is thus not surprising to find a high average salary in the London and South Eastern region and in the Yorkshire Ridings which include Leeds and Sheffield, though there is no obvious reason for the high average in the Southern region. One would perhaps expect the same factor to operate in the North West (Manchester, Liverpool), the Midlands (Birmingham) and Scotland (Glasgow), but in these regions the tendency seems less marked, in Scotland least of all. The conclusion that salaries for comparable posts are lower in Scotland, and perhaps the North of England, than elsewhere in Britain thus seems inescapable.

For wages, we should expect to find a high average in Wales and the North of England, where heavy industries predominate, and a low figure in the North West, Yorkshire and the North Midlands, where textile industries play an important part in the regional economy. But the industrial pattern of Scotland, which maintains a fair balance between metal, textile and other industries, does not yield any explanation for the relatively low wage level.

In order to obtain a more accurate indication of the level of regional earnings in comparable industries, an earnings index has been worked out for each region, based on those Census of Production trades which give the required data for the region concerned. The index shows the ratio of actual wages and salaries to a hypothetical product of actual regional employment and the national average remuneration in each industry; it can also be described as an arithmetic mean of the ratios between regional and national average earnings in each industry, weighted by regional employment. The published data do not allow this analysis to be made for wages and salaries separately, but the influence of the industrial pattern on salaries is relatively small, and the conclusions that can be drawn apply mainly to wages.

The index constructed here corresponds to what is described as the 'regional earnings rate' in Miss Deane's articles.[2] In Table II, the results obtained are compared with Miss Deane's figures, which refer

[2] More strictly speaking, to R_2, the second form of the regional earnings rate. The present index seems more satisfactory than one using British weights which would correspond to Miss Deane's R_1.

to all industries and services, instead of to manufacturing alone, as in the present paper.

On the whole, the two sets of results are in good agreement. Some of the differences are accounted for by the coal-mining industry, the

TABLE II

EARNINGS INDEX FOR EACH REGION OF GREAT BRITAIN, 1948

Region	Earnings Index	
	Production Census: Manufacturing G.B.=100	Phyllis Deane: All Industries and Services U.K.=100
North	95·5	96·8
East and West Ridings	96·9	98·1
North Midland	98·5	100·9
East	101·0	100·1
London and South East	108·1	107·6
South	100·7	97·0
South West	96·3	94·5
Midland	100·8	99·8
North West	98·6	99·3
Wales	98·0	95·1
Scotland	93·0	95·2

inclusion of which tends to raise the index for the North Midlands and for Scotland and to depress the index for Wales; for Scotland, this may no longer be true for years subsequent to 1948, a year in which productivity and earnings in Scottish coal mines still compared favourably with those in England and Wales. Another discrepancy, for which there is no obvious explanation, arises in the case of the Southern and, to a lesser extent, the South Western regions, both of which compare more favourably with the other regions in the present set of figures than in Miss Deane's analysis.

The present results—the first set of figures—can perhaps be accepted as more plausible since they present quite a clear-cut picture. When the influence of the industrial pattern has been eliminated, earnings in manufacturing are seen to be highest in the London region, followed by earnings in those regions which are nearest to London. With increasing distance from London, earnings decline; they are low

in the South-West as well as in the North of England, but lowest in Scotland, where the deficiency amounts to 7 per cent. of the average level in Great Britain. As regards Scotland, the result broadly agrees with that obtained by Mr. D. J. Robertson.[3] The regional variations in earnings appear to be associated with variations in output per head, but the nature and meaning of this relation would require further investigation.

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[3] D. J. Robertson, 'Wages', Chapter 11 of *The Scottish Economy* (Cambridge, 1954), pp. 149-69, especially pp. 158-59.

'THE SCOTTISH ECONOMY'

SINCE the beginning of this century much effort has gone into increasing the catalogue of facts about our national life. More recently, the mere amassing of data has been given new meaning by the growth of applied economics. The attempt to interpret facts, the essential of applied economics, has not, however, made the progress that might have been expected. For one thing, the old idea of statistics as the mere assembly of figures still holds out attractions for the unadventurous. Much of the current effort of statisticians, whether in Government service, the universities or in private trade, goes into marshalling facts in publications which vie with Bradshaw in complexity and in painting broad pictures that make only minor contributions to our knowledge of 'the way things work'. In this respect statisticians have much in common with librarians whose happiness seems to depend on having books on the shelves rather than in use. Again, the attraction of a quick return for a minimum of effort has meant that research has not developed as uniformly as it might have done. In some fields a wealth of information has resulted in comparatively detailed research, but there is still a large area where little work has been done.

In many respects, therefore, the members of the staff of Glasgow University led by Professor Cairncross are to be congratulated on their latest work, *The Scottish Economy*.[1] There are very real difficulties involved in attempting an analysis of an economy within an economy. In British statistics there is a wide variation in the amount of quantitative detail which is available 'regionally'. Administratively, statistics are more useful if classified by trade or commodity rather than by area. Again, it often happens that a basic grouping which must be imposed on an aggregate is designed for British use, so that regional analysis may become meaningless or groups in a region contain so few representatives that the data become confidential 'because of the risk of disclosure of information relating to individual firms'. Much could of course be done by using a different matrix for some of the statistics which are built up from samples, but in fact these things are not yet with us.

Of the administrative areas of Great Britain, perhaps Scotland is the easiest to deal with. The 'ancient kingdom in which the fire of

[1] *The Scottish Economy: a Statistical Account of Scottish Life*, by Members of the Staff of Glasgow University. Edited by A. K. Cairncross. (Cambridge University Press, London, 1954. Pp. xv + 320. 30s.)

nationalism still burns' offers a distinct and cohesive area for examination, even if sometimes, as one may detect in certain chapters, the fire burns a little too fiercely for an objective argument. The Scottish administrative system provides, within a limited field, as many facts about Scotland as are available about Great Britain or, for that matter, about most European countries. Most of the material for the study of Scottish population and vital statistics, agriculture, local government, housing, health, crime and education is available from official publications with the same ease as it is for Great Britain. For other subjects, such as manpower, and for certain industries—coal-mining for example—regional information is very well documented. Information is not so readily available, however, for what are perhaps the most important statistics in the 'national' sense—income, trade, wages and consumption.

In general this book deals with three main types of material. In social statistics many of the main problems, particularly in the type of 'country comparison' involved here, are qualitative; they are matters in which personal judgment plays a great part. This is not so with many other statistics, where, with well-established definitions and classifications, the problems are mainly those of quantitative descriptions, with less need for qualitative assessment; examples are population and employment. In addition, the book contains many economic statistics, in which, with the aim of producing 'national measures', a good deal of calculation has been involved.

In the first group, the social statistics, the differences between Scotland and England are very marked and provide many pitfalls for the uninitiated. The scope and definition of the statistics differ in the two countries, and all manner of traditional and often ridiculous beliefs have grown up through the ages. The authors are to be congratulated on having steered clear of the lunatic fringe and on having made a real contribution to the understanding of published material on such subjects as crime, education, health and housing. Not everyone will agree with all the opinions expressed; for example, is overcrowding really attributable to the householders' preference? But on the whole opinion is well divided from fact and these chapters add considerably to ease of interpretation in a field where much remains to be done in clarifying, and perhaps in establishing, definitions.

In the purely factual field the book's chief contribution is that it assembles material in a convenient form. Many of the subjects have already been extensively treated, but the analysis of some of the results of the 1951 Census will be new to most readers; on population, vital statistics and manpower the book is helpful in providing a concise

summary and a useful lead to what exists elsewhere. Unemployment and the related statistics of national assistance and social service expenditure have, however, been treated rather briefly in comparison with some of the other subjects. The criticism might also be made that the manufacturing industries are rather summarily dealt with, and that the contribution on coal-mining, though well-documented, is particularly inconclusive.

Perhaps the most valuable contribution made by this book, and certainly the most interesting from the technical point of view, is contained in those chapters which deal with economic statistics, for there an attempt has been made to examine the Scottish economy as a whole.

Of particular interest are the estimates which have been made of the Scottish national income. The difficulties of national income estimates are well known. The treatment employed here is to calculate the 'aggregate of incomes received by or attributable to individuals ordinarily resident in Scotland'. This method is obviously not what one would choose for a study of Scottish national income if more varied material were available. It is perhaps unfortunate that the technique of the measurement of the real product, which has been skilfully developed over recent years, is still not sufficiently mature for use in a regional study of this kind. The approach to national income statistics from the output side would appear to be a useful one in regional studies, and one which would overcome some of the difficulties which beset estimates based on income.

The difficulties and dangers of the income method are very clearly set out in the text. The most significant difficulties may be illustrated by the treatment of 'company profits'. Here it is assumed that Scotland's 'share' of United Kingdom company profits is the same as Scotland's 'share' of United Kingdom capital, the share of United Kingdom capital being estimated from estate duty statistics, on the assumption that estates subjected to duty are in fact representative of the holdings of investment capital for all age-groups. The main objection to this method is that it measures the success or failure not of Scottish companies but of Scottish investors—one might even say of deceased investors. Thus national income in terms of expenditure or output estimates (or of the more usual income definition) will differ by an unknown amount from these estimates of the Scottish share of United Kingdom incomes. Similar difficulties arise in the estimates of other types of income from property, and certain conventions have to be applied in estimating Government income from various sources. It is to the author's credit that the difficulties involved are well

documented, but, though the figures given are interesting on account of their ingenuity, it is difficult to interpret them as national income estimates, partly because of the definition chosen and partly because of the insecure nature of the data.

These difficulties are, however, swept away by the author of the chapter on Trade. Here a comparison is made between imports and exports and national income. Imports are calculated by using data from the 1948 Census of Production for those parts of the economy which are included in the Census and *per capita* estimates for other items such as food. Estimates of exports are based primarily on the Ministry of Labour returns of workers employed on export production, on actual statistics of export production, and on Census of Production *Reports*. The information for both imports and exports has been supplemented by statistics of trade through Scottish ports, but no account has been taken of trade with the rest of the United Kingdom. It is difficult to understand how these figures can be compared with national income figures calculated on an 'income-of-residents' basis. When, however, the comparison continues with national income, import and export information from five other countries—Australia, Denmark, New Zealand, Sweden and Switzerland; value converted to pounds sterling, a process in itself fraught with fallacies—and the conclusion is reached that Scotland is one of the least dependent on international trade, many people will part company with the author. He admits, however, that this conclusion is invalid if trade with the United Kingdom is taken into account.

The measurement of imports and exports presents a very serious difficulty in any regional study. Although we may applaud the attempt to provide detailed information, we cannot escape the general conclusion that our knowledge has been very little advanced by this type of analysis.

Rather more reliable facts are provided by the analysis of the Scottish component of the Ministry of Labour's inquiry into the expenditure of working-class households in 1937-38 and the Ministry of Food's National Food Survey. It is unfortunate that more detailed information is not available to enable a complete study of consumption to be undertaken. Most of the differences in expenditure between Scotland and the United Kingdom which this limited information reveals are not surprising. Larger families and more overcrowding result in less expenditure, both per household and per person, on rent, fuel and light. These differences surely point to an interesting possibility for further study.

Two of the most interesting and controversial chapters are those which deal with wages and production. Despite the fact that the information available is fragmentary, it seems clear that though wage rates may be similar, earnings in Scotland are lower than in the rest of Britain. This may be due partly to differences in the industrial structure and partly to differences in the 'quality' of work which exist within any general grouping or classification of industries. A similar point is discussed in relation to industrial production. On the broad view the striking fact in a comparison of Scottish and British industry is similarity rather than difference, but the more detailed examination which is carried out with admirable skill and commendable tact in the chapter on Production reveals some interesting differences. A rather more cheerful picture is presented by the new firms which have settled in Scotland since the war, many of them, we are told, English or American. Here, however, no comparison is made with British statistics, so that the significance of the figure of 'about 100 new enterprises a year' is not examined in relation to developments in the rest of Britain. New industrial developments are said to provide 'new employment', but it is not clear whether this will be made possible by a decline of established firms, or by an increase in productivity in Scottish industry which will release workers for new employment, or whether it is expected that more workers will be drawn into industry from other occupations, from the home, from the pool of unemployed, or perhaps from England. The question of production obviously raises fundamental issues and these are excellently displayed in this book.

As the authors point out, there are many gaps in the information with which they have to work. Partly for this reason perhaps, it is difficult to find any continuous thread running through the book. Another reason is that the most usual indicators of the health and progress of an economy are either absent or statistically so weak as to impair interpretation.

The Scottish Economy is both an encyclopaedia and a useful guide to sources. Its principal value, however, is as a pointer for action. If statistics are to provide a useful service and to be available in a meaningful form, most people will agree that there is still a good deal of work to be done. Not the least service that this book performs is in pointing this out.

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RECENT ECONOMIC TRENDS

Trends in Unemployment

Unemployment in Scotland, Wales and Northern Ireland has been persistently higher than the average for the United Kingdom as a whole. About 3 per cent. of the working population of Scotland has been unemployed during the years 1949-53; in Wales the percentage unemployed was 3½-4 per cent. in 1949 and 1950, but it has now

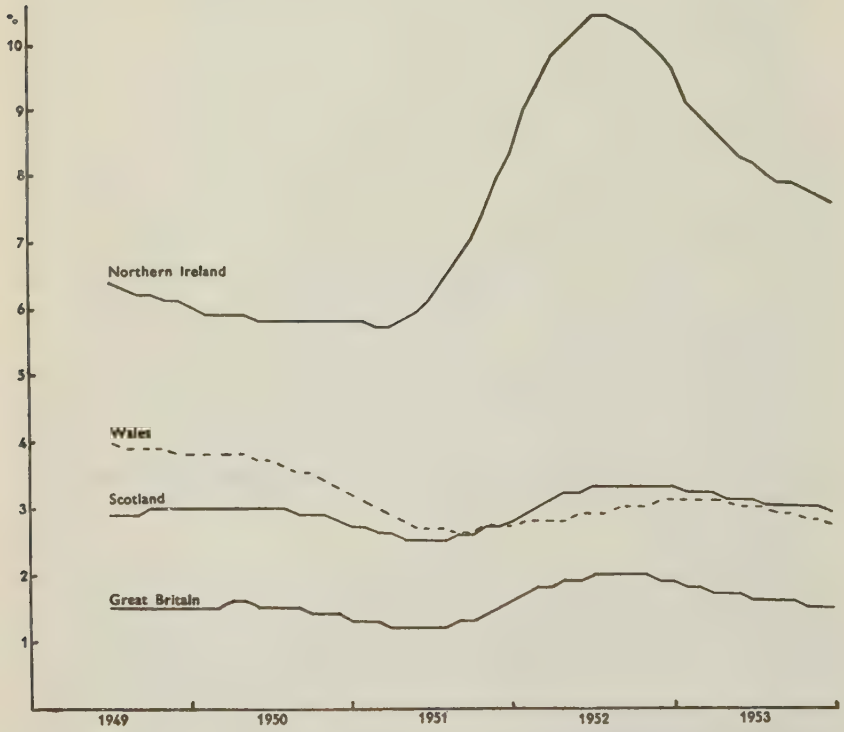

FIG. 1. Monthly unemployment percentages in Scotland, Wales, Northern Ireland and Great Britain, January 1949—June 1954. 12-month moving averages.

fallen slightly below the Scottish level. In contrast, there appears to have been a tendency for unemployment in Northern Ireland to increase; when unemployment in Scotland and Wales declined between 1950 and 1951 under the influence of the Korean boom, it increased in Northern Ireland; and although it is now below the high levels of the recession year 1952, it is still appreciably above the 6 per cent. recorded in 1949-51 and high in relation to the other major divisions of the United Kingdom (see Fig. 1).

Comparisons with pre-war conditions cannot be made satisfactorily owing to changes in the scope of the Insurance Acts. For the census years 1931 and 1951 a rough comparison can, however, be made for England, Scotland and Wales (but not for Northern Ireland where no census was taken in 1931) on the basis of the occupied

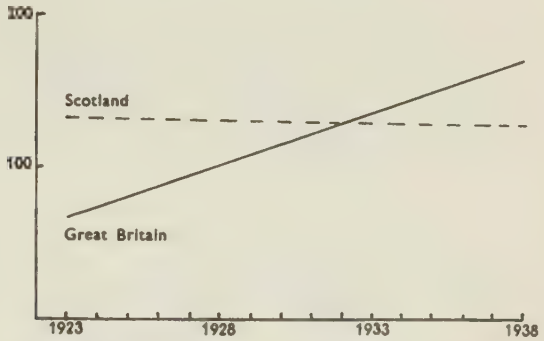

FIG. 2. Estimated cost of factories and workshops for which plans were approved in 146 towns in Great Britain and Scotland, 1923-38. 1930 = 100.
Trend lines: Great Britain, $Y_c = 118{\cdot}431 + 3{\cdot}445X$
Scotland, $Y_c = 130{\cdot}368 - 0{\cdot}046X$
Origin 1930-1. X units, ½ year.

population, employed and unemployed, counted in the census. The figures, which differ somewhat from those compiled by the Ministry of Labour, are set out below:—

PERCENTAGE UNEMPLOYED IN ENGLAND, SCOTLAND AND WALES AT CENSUS DATES

	England	*Scotland*	*Wales*
1931	11·2	16·2	16·5
1951	1·7	2·8	3·2

As is well known, there has been a large reduction in all the countries, but it has been more marked in England than in Scotland or Wales. There can be little doubt also that unemployment in Northern Ireland has been greatly reduced compared with the 1930s, but it can be inferred from pre- and post-war data that the reduction has been much less marked than it has been in other parts of the United Kingdom, and the present level demonstrates the extent to which a reduction in Northern Ireland is still needed.

New Factory Building

There was only a negligible amount of new factory building in Scotland between the wars, and the level trend, as will be seen from Fig. 2, diverged sharply from the upward trend for Great Britain. The development of the Trading Estates in the late 1930s was the beginning of an improvement which continued throughout the war. In the post-war years a large amount of new factory space has come into existence in Scotland: up to the end of 1953, 848 new factories and extensions costing £34 m. had been constructed, these totals representing 11·8 per cent. by number and 10·5 per cent. by value of new factory building in Great Britain.

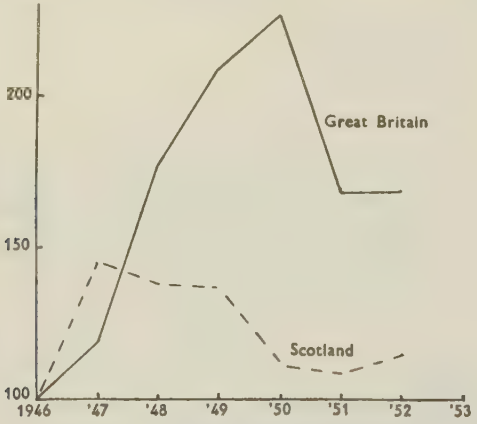

FIG. 3. Value of approved new factory buildings in Great Britain and Scotland, 1945-53. 1945-7 = 100. 3-year moving averages.

In recent years the rate of development in Scotland, measured by the value of factories under construction or of buildings approved, has fallen considerably and lagged behind that in England and Wales (see Fig. 3). The value of factories under construction in Scotland fell from £26 m. at the end of 1951 to £19·5 m. at the end of 1953—a fall of 25 per cent. compared with a rise of 3 per cent. in England and Wales. Similarly, buildings approved in Scotland fell from £8 m. in 1951 to £6 m. in 1953—another fall of 25 per cent. compared with a rise of 18 per cent. in England and Wales.

It is too soon to say whether this deterioration is more than a temporary fluctuation. The value of factory buildings under construction in Scotland has fallen fairly steadily since the first quarter of 1951, and the fall continued in 1954. On the other hand, though approvals in 1953 were, in total, less than in 1952 and considerably

less than in 1951, they increased significantly throughout the year, rising to £2·5 m. in the last quarter. This recovery does not appear to have continued in the first quarter of 1954. Not only may new factory development in Scotland be too slow in the light of past history and current requirements, it is again lagging seriously behind construction in England and Wales.

The Borstal Bulge

Both in Scotland and in the rest of Britain the post-war years have seen an increase in juvenile delinquency followed by a decline. In the peak year of 1951—the fall since then has been considerable—

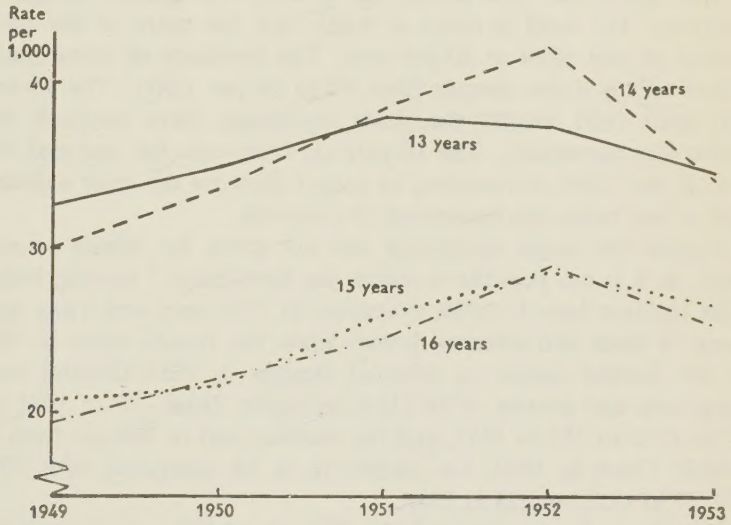

FIG. 4. Incidence of crimes per 1,000 boys by single age-groups in Scotland.

the total of juveniles found guilty of indictable offences in England and Wales was 69 per cent. higher than in 1938. In Scotland the rise to the highest post-war total, that of 1952, was moderate by comparison, 29 per cent. above the 1938 level. But the incidence of juvenile crime in Scotland has been consistently higher than in the south; and the figures for the past four or five years show a remarkable deterioration among the older boys and girls which has no counterpart in the English figures.

As the annual total of crimes proved against juveniles mounted from 8,949 in 1949 to 10,486 in 1952, the proportion of the total attributable to young people of 14-16 years of age rose from 34 per cent. to 41 per cent. The incidence for youths, measured as a rate per 1,000 of the

14-16 population, rose from 23 to 33, the rise at 16 (from 19 to 29 per 1,000) being particularly striking (see Fig. 4). The figures for girls show the same trend, but on a much lower level.

Speculation fastens on two alternative explanations: one, that certain contemporary factors—*e.g.* the raising of the school-leaving age, or the opportunity, once left school, to move from one well-paid blind-alley job to another—were specially unfavourable to youngsters at these particular stages; the other, that the children born in 1936-38 were a generation so disturbed by the impact of war and evacuation that a greater proportion than is normal was pushed over the threshold of criminality or neurosis.

The figures for 1953 favour the second explanation, though not decisively. The total is down to 9,243, and the share of the 14-16s is down by one point to 40 per cent. The incidence of crime among 14-year-olds is down sharply from 42 to 34 per 1,000. The 13-year-olds, until 1950 usually the worst age-group, have resumed their mischievous supremacy. The 16-year-old crime-rate has dropped from 29 to 25 per 1,000, so resuming its proper place on the scale a decimal point or two below the less-settled 15-year-olds.

Figures for single age-groups are not given for adults or near-adults, so it is not possible to follow the speculative " moving bulge " of the children born in 1936, evacuated in 1939, and sent away again (many of them had returned home) when the bombs came in 1941. But the Borstal intake on criminal charges in 1953 (Borstal trains young men and women of 16-21) is up again, from 178 in 1951 and 235 in 1952 to 259 in 1953, and the number sent to Borstal from the Juvenile Court in 1953, *i.e.* under-17s, is 65 compared with 53 in 1952, 37 in 1951, and 23 in 1949.

It will not be surprising if the Borstal intake is even greater in the current year; and the Scottish prison authorities may have to make special provision—preferably by providing a special prison or prison section—for the formidable remnant of those so deeply disturbed as to be incorrigible by ordinary penal and training methods.